

The Canadian Medical Association Journal



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The Canadian Medical Association Journal

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No. 8

PRESIDENTIAL ADDRESS

BY S. GRONDIN, M.D.

*Professor of Obstetrics and Gynæcology, Laval University,
Quebec*

IN rising to address the members of the Canadian Medical Association, my first and agreeable duty is to thank you for the great honour you have conferred upon me, in electing me your President; and I wish to express here, publicly, my high appreciation of the kind thought, which led to your choice of my humble personality. I am well aware that your intention in doing so, is to bestow an honour upon the whole French Canadian profession, and this consideration was a strong argument in favour of my accepting a charge that I would qualify as formidable. It is indeed no easy task, that of preparing and presiding over a meeting of eminent men, such as those I see around me to-night. It is with a just feeling of pride that I behold this gathering of renowned practitioners, and it gives me confidence that this day shall be one to be remembered in the history of our Society.

Everything, in fact, contributes to make this year's meeting an eventful one, since we may look upon it as the Jubilee meeting of our Association. It is true that we were founded in 1867, but our annual meetings were interrupted twice during the first two years of the Great War so that this is really the fiftieth one we are holding at present. Moreover, we are at last rid of the terrible anxiety of the four years of incessant fighting we have lived through, and the whole world is turning over a new leaf in the Book of Life. We can rejoice freely in the celebration of our anniversaries, for it

Delivered before the Canadian Medical Association, June 26th, 1919.

is the dawn of the day of universal peace, which will illuminate the beginning of this second period of our Association.

Before going any further, Gentlemen, I wish to extend my hearty thanks to the delegates from Halifax, to whom we are indebted for the holding of the Convention in Quebec this year. For, notwithstanding their precedence over us, they graciously gave up their rights in our favour, and I am glad to have an opportunity of telling them how much I appreciate their act of courtesy toward us.

Gentlemen, if we go back to the birth of our Society, we find that it was in Quebec, the old city of Champlain, that it occurred. In October, 1867, at the Laval University, for the first time physicians from all parts of the Dominion assembled for the discussion of scientific questions and also to improve the medical conditions in the country. They had answered the invitation of the late Dr. Sewell, who was then President of the Quebec Medical Society, and we can read amongst other resolutions in the report, the following:

"Resolved, that the Quebec Medical Society recommends the calling of a Convention of medical delegates from universities, colleges, schools, medical societies in the Dominion of Canada, to meet at the City of Quebec, on the second Wednesday in October, 1867, for the purpose of adopting some concerted action on the subject of medical legislation in conformity with the report and the formation of a Canadian Medical Association."

This report was signed by the late Dr. W. Marsden, Chairman, and the late Dr. R. H. Russell, Secretary, and a copy of it was sent to every new member of the medical profession in the Dominion of Canada, amounting then to three thousand. One hundred and sixty-five responded, of whom one hundred and thirty-three were from the Province of Quebec, and of this number one hundred and one were French Canadians, twenty from Ontario, eight from Nova Scotia and four from New Brunswick.

Dr. Sewell, in his address to the Convention, spoke these words, which deserve to be remembered:

"Gentlemen, I look upon this day, as a most important one in the history of Canada, one replete with interest and full of promise for the future, not only to us, but to society at large. Moreover, I am satisfied that this meeting has a national, as well as a scientific importance, which must commend itself to all reasonable and right thinking men."

These words, gentlemen, could be said at this very time and

would be applicable to any one of our meetings at present, I am proud to say.

It was at that first meeting that the members of the first executive committee were elected, and at the afternoon meeting, the Honourable Dr. Charles Tupper, of Halifax, was chosen first President of the Canadian Medical Association. There were at that time as vice-presidents for each province:—Dr. Hector Pelletier, of Montreal, for the Province of Quebec; Dr. R. S. Black for Nova Scotia; Dr. Le Baron Botsford for New Brunswick; Dr. E. M. Holder, of Toronto, for the Province of Ontario; Dr. Alfred G. Belleau, of Quebec, was elected General Secretary; Dr. Robert H. H. Russell, of Quebec, was elected Treasurer.

Let us note that of all those learned and eminent men, who were the founders of our Association and who were then the leaders of medical thought in Canada, many of whom were our esteemed and beloved professors, not one of those toilers of the first hour remains to be present to-day at our Jubilee meeting. The last one to leave for a better world, was our Professor of Surgery, Dr. Laurent Catillier, who died last year. To all of them, let us give here a kind remembrance.

Gentlemen:—Do not expect from me to-night a dissertation in medicine, as has been up to now the general habit in the Presidential Address. I will act contrary to the established custom, keeping in touch, nevertheless, with subjects of medical interest.

The terrible war we have just been through has had the result of cementing, between England and France, an everlasting friendship; it is no more the mere "Entente Cordiale"; there is between the two nations that once were enemies, a fraternity sealed with the blood of thousands of heroes, and there are some of us here to-night, who know this in their own heart's pain. For have we not, English and French Canadians alike, shed our blood in the Great War, and, therefore, have we not the very same reasons for being united by the same links of friendship!

And as for us physicians, are we not in the best condition possible to realize this dream of brotherhood? We are not, like so many other prominent men, divided by political interests or religious questions, the two great sources of endless contests.

The doctor who takes to heart his noble profession and does not take part in the conflicts of the extremists, is, in my point of view, better placed than any one else, to become in our country, the instigator of what I would call the "*Union Sacrée*" between the

two different elements of our population, who, though separated by the difference of language, are animated with the same spirit.

I trust the fulfilment of this aspiration belongs to the Canadian Medical Association, and its accomplishment would create, I am convinced, a sincere friendship, not only between the members of our profession, but also between all the subjects of the Empire in the Dominion of Canada. Was it not this *very* same thought which dictated to Dr. Tupper these eloquent words that he addressed here in Quebec to the medical profession and that I will ask your permission to recall in remembrance of our first President:

"At a time when political union of the Provinces had been accomplished, it was thought advisable to unite more closely the members of the profession in the Provinces, so that they might become better acquainted with each other, and might consult respecting the best means of elevating the profession and advancing its interests, and thereby be advancing the interests of the people of this great Dominion. I regard it as important, because I hold it to be a meeting of members of a profession the most noble, the most unselfish and the most influential of any secular profession or calling. The most noble, because our lives are devoted to the God-like work of relieving human suffering, and of contributing to that, which is felt to be the most important object, not only the relief of human suffering, but the preservation of human life, whenever it is possible that human means may aid in its preservation. The most unselfish—because it is the only profession, which, I believe, uniformly gives its untiring services without fee or reward, wherever suffering humanity demands attention and consideration at our hands. The most influential—because, knowing, as it does, no distinction of creed, no distinction of nationality, no distinction of class, no distinction of party—the members of our profession form the connecting link between all creeds, all nationalities, all parties and all classes. They have an opportunity of exercising a moral influence, which, I believe, is fully admitted to be certainly second to that of no other profession."

It seems to me that this fine speech delivered fifty-two years ago looks to the same end I am aiming at to-day, and that I cannot fail, in counting upon our noble medical profession to accomplish it, and especially upon the Canadian Medical Association, with a membership of 1,300 members at present.

I want you to understand, gentlemen, that it is not pure sentimentality on my part, if I express this wish. I firmly believe that our scientific interest demands our coming more closely together.

We have, English and French doctors as we are, a somewhat different medical training, thence we should have a strong interest in exchanging our ideas and discussing them.

I want to bring before you here, another question of practical importance, from my point of view. Where shall we direct, in the future, our young physicians and surgeons, just coming out from our universities and desirous of acquiring more experience in their profession?

Before 1914, the schools, which attracted us more especially, were the English schools of London, Edinburgh, and Dublin, the French schools of Paris and Lyons and the German schools of Berlin and Vienna. We can leave aside without hesitation, for the future, those last two universities. After the numerous acts of cruelty and barbarism committed by the German surgeons on our gallant men, I firmly believe that no one from our country will ever follow their teaching. It is consequently to England and France we must turn.

I have no need to praise before you the English universities; you know them better than I do, but I would like you to permit me just a few words about the French School. It would unfortunately carry me beyond the limits of the time I have decided upon for this address, to give you a full knowledge of the teaching in France, and it would require a more eloquent tongue than mine—but I would feel I have been helping towards the betterment of our spirit, if I succeed in putting into your mind, the idea of getting more closely acquainted with French teaching.

My first design was to study with you and compare the two different schools—the French and the German, in order to prove to you that in substituting the one for the other, for our pupils, we have nothing to lose from a scientific point of view. But I deem this unnecessary, because we all know at present, that the system of appointment of the French professors is superior to that of the German, the latter being the result of favouritism. The French are as much superior to the Germans in the science of medicine as they have proved themselves superior to them in the science of war. Besides this, gentlemen, is there another country in the world able to boast of so many illustrious names as those who have immortalized the School of Paris?

For instance:—*Bichat*, the creator of general and microscopical anatomy. Observation and experimentation were the two great methods by which he made such a great name for himself. No one more than *Bichat*, practised the experimental method. *Laennec*,

who made the wonderful discovery of auscultation, which is more than sufficient to immortalize his name and of whom I shall not venture to say anything more after the able and learned address given to you this morning by Professor Thayer. *Trouseau*, the most famous professor of clinical medicine of his time. *Claude Bernard*, whose physiological work takes in the whole field of physiology and who has made important discoveries in every branch of physiology. He has made two contributions, which are superior to everything written before on the subject. I mean those which treat of the glycogenic function of the liver and of the vaso-motor nerves. In these subjects we may say that his work was entirely original, and the verification which has been made of this work, especially in Germany, prove it to be faultless. We have no other example of so remarkable a part taken by one individual in any science. It has been said of him that he was not a mere physiologist but physiology itself. And you all know the world-famed *Pasteur*, one of the most renowned men of the nineteenth century in scientific matters. Let us end the enumeration by *Professor Roux*, the collaborator of *Pasteur* in his memorable researches. Together with *Yersin*, he established that the bacillus of *klebs loëffler* is the cause of diphtheria and found the diphtheritic toxine. This discovery was the start of the researches of *Behring* in the diphtheritic anti-toxine, which led the way to the scientific treatment of diphtheria.

But let us go no further, for the list of eminent men would be too long to give it here. I trust I have said enough to convince you of the importance of seeking the best in the formation of our future generation of scientific men in this country, and of going to France to find this opportunity.

Now if there is any great advantage in sending our pupils to France and to England for their final studies, there is equal necessity of their knowing both languages. France has at present, more than ever, what we find in every page of her history, a kind of mission in this world, and her language is undoubtedly the language of the future.

In order to give to your English pupils a sufficient knowledge of this language, I wish to propose to you to-night, a scheme that I have been preparing, because I trust it will be a great help to our young practitioners.

At my request, Monseigneur Pelletier, our esteemed rector, has agreed, with that love of progress which characterizes him, to ratify the following offer, which I am therefore authorized to express to you:

The Laval University will be glad to receive, free of charge, all young English speaking doctors, of the Dominion, who, having passed their degree in their own universities, would like to come to Quebec, and follow during one year the lectures given at the university and the clinics in the hospitals. They will have a hearty welcome amongst us, and I can assure you that after six months, they will know how to speak French. We would, in return, ask from the English universities the same privilege for our young French doctors.

I know by experience the advantage of living amongst people, who speak a language different from our own, and of following courses given therefore in a strange tongue. In 1885 I was six months in the Rotunda Hospital in Dublin, and it is probably due to my stay there, that I can address you in English to-night. If the wording of my speech has not been always as correct as it might have been, it is because my stay has not been more recent; in any case, it is with all my heart that I have tried to extend to you the warm welcome, not only of the whole profession, but of all the citizens of Quebec, who are proud to see the members of the Canadian Medical Association enjoy the hospitality of their old city, this city of Canada, which more than any other has kept the aspect and the traditions of the first years of the Colony.

Gentlemen, the motto of Quebec is one of remembrance, "*Je me souviens.*" Let us then give you the assurance of the memory we shall keep of this meeting of our Society, and of our looking forward to another one in the future.

THE introduction of women to medical research work has received a decided impetus in Great Britain by the provision of a scholarship valued at \$1,200 a year, to be administered by the Royal Society of Medicine. The scholarship has been endowed by Miss Maud Margaret Gibson in memory of her father, William Gibson, of Melbourne, and will be awarded to qualified British medical women.

THE CONTRIBUTION OF THE HOSPITAL TO THE SURGERY OF TO-DAY

ADDRESS IN SURGERY

BY JASPER HALPENNY, M.A., M.D., F.A.C.S.

*Professor of Surgery and Head of the Department of the Faculty of
Medicine, University of Manitoba; Surgeon to the
Winnipeg General Hospital*

WHEN the more than kind invitation came to deliver the annual address in surgery before this Association, the thought came to mind at once that the invitation came primarily not as to an individual but to the Middle West. The Near-west deeply appreciates this courtesy from the meeting held in the oldest city in Canada, the city of Quebec, founded by Champlain, July 3rd, 1608. The individual chosen still more deeply appreciates his having been selected as the representative.

Since 1659, when the Hotel-Dieu, the first hospital in Canada, was opened in Montreal, there has been a very great change in the place taken by hospitals in the life of the community, both from the standpoint of the profession and that of the people. Then an extremely small percentage of the sick people were taken care of in hospitals. Now a very large proportion of the seriously ill are taken care of in such institutions. It is safe to say that the major part of surgery is taken care of in hospitals. Therefore it would seem fitting that we should discuss the topic we have chosen. It will lead us into discussion of the hospital from the standpoint of the patient, from the standpoint of the surgeon, and also from the standpoint of the training of the surgeon of the future, the senior resident surgeon.

In any consideration of the contribution the hospitals of to-day are making to surgery, the chief attention must be given to the patient, since the whole service, hospital, surgery and everything else exists for the patient. The problem of the surgical care of patients is a much more complex thing than the mere technical doing of the operation. In fact, the patient's chief interest is not

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merely in having a necessary operation well done, but it is in getting well to such an extent that he will stay well. With this fact in mind the view to be taken, on many points, will be materially different to what it would be if the chief thought was the betterment of the pecuniary or social well-being of surgeons. It may be said that this is self-evident, and therefore need not be stated at all. Is it not the case that, self-evident though it be, it is often overlooked to the detriment of a patient? If this is kept in mind while the subject is reviewed, some of the things said will not be regarded as too extreme, too drastic and too inconsiderate of the struggling general practitioner, who is giving the best of his life amongst the poor of the city, the hardships of rural Quebec and the Maritime provinces, or in the cold winters on the prairies. The medical profession exists for the betterment of the welfare of the people, physically and mentally. If this fact were kept constantly in mind, it would affect not only medical ethics, but the treatment of the patient, and it is not enough that we endeavour to advance in the scientific side of our work only. We must take our full share of the responsibilities that are involved in filling our place as a unit in the complex social fabric of this modern age.

It should be settled beyond a peradventure that the entrance of a patient on the roll of a reputable hospital should carry with it a guarantee, not in writing but nevertheless in fact, that the case will be thoroughly studied and that any surgical procedures undertaken will be reasonably well done. To insure this will necessitate some sure method by which the Board of Trustees of that hospital will know positively whether the man who proposes to operate is competent to do so. To state it negatively, this responsible body will not let an incompetent man undertake an operation, which to the patient is an all-important thing. This statement will find strenuous opposition from many would-be surgeons. Boards of Trustees will not always be ready to accept the responsibility. Referring to this point, Dr. John Young Brown of St. Louis says: "It is impossible for those in charge of hospitals to evade the responsibility conferred through the trusting confidence of the patients who enter their portals in the full belief that nothing improper or unwarranted will be permitted by the hospital authorities during his or her stay within its walls. Were it not for this almost universal feeling on the part of the patient, it is doubtful if our hospitals could exist. Do the hospitals in return meet this confidence of the patient with a full realization of their responsibilities in every direction? Unfortunately, in most cases, we must reply in the negative

"The hospitals are in position to refuse to become parties to other than competent and skilful work in handling of the unfortunate sick in their charge.

"A position on the Board of Trustees or Directors of a hospital is a great public trust; that trust must be observed and realized to a greater extent, and it is our duty in every rightful manner to assist hospital boards and administrators to a full understanding of their responsibilities to the public. They cannot relieve their conscience with the inference that the treatment of the patient lies with the doctor's conscience and that they are to supply only the facilities for carrying out his work. Many board members would shrink from the knowledge of conditions within their hospitals, were they informed of the true state of affairs."

In the matter of the surgeon's responsibility, let us not forget that, in the intricate fabric of modern social organization, there is immense responsibility placed on the medical profession. We are the only people legally qualified to take care of the sick. If that responsibility is abused by incompetent surgery, the profession has just that far lost its right to the confidence of the people and to the special privileges enjoyed.

And if the surgeon, as a member of this specially privileged class, is morally bound to reach a fair standard of efficiency before undertaking critical operations, does this relieve the Board of Trustees altogether from responsibility? Some think so. Is, then, the hospital merely a nursing home so far as the Board is concerned? Is that Board not responsible to the public to the extent of seeing that there is good nursing care, a properly equipped x-ray, a pathological laboratory well equipped and equally well staffed? Then why not accept the same responsibility for the doing of the operation as for seeing that the x-ray work and the laboratory work are scientifically done? In some hospitals in Canada this is not a problem at all, because members of the staff only are allowed to treat private patients. In the great majority of cities this is not the case, however, and the issue here raised is a very real one. Has not every man who gets a license the right to undertake major operations? This is the question raised. If the answer is not given to this question in a straightforward way by the profession, and by the boards of our larger hospitals, it will be answered in a very drastic way by the public. Lacking sufficient information, they probably will not answer it nearly correctly.

In their attempt at regulating the matter and rectifying the evil which exists, their efforts, as they will be translated into law,

may prove a detriment to the people as well as to the profession. It must be candidly admitted that many necessary operations are badly done by men who have spent no time on special preparation for surgery, and also that sometimes unnecessary operations are done. Rutherford Morrison said to this Association in 1914: "Surgery has now arrived at a position beyond the reach of the family doctor, and, unless in exceptional conditions, he should not, in the interests of his patient and himself, perform surgical operations."

Let two things be clearly understood at this point. In localities somewhat removed from the larger centres, emergent surgical cases must be taken care of as best they can by the general practitioner, to whom the people owe a very great deal. Some of the noblest medical work done is by the men who live in small places and have long drives, and emergent cases both surgical and obstetrical are very frequently well done. Secondly, it is not claimed that surgeons always perform all operations perfectly after having made an accurate diagnosis. It is claimed, however, that the man who spends much extra time in preparing himself for surgery is more likely to give the patient fair service, than is the man who has acquired no surgical training except what he got in an undergraduate course. Therefore it is respectfully submitted to this, the national association of our profession, that it is highly desirable, in the interests of the people, that major surgical operations in the hospitals in the larger centres be done by men who have spent some time in special training for that work. This suggestion, if understood by the people, would likely meet with their approval.

Hospital Boards must accept the responsibility of deciding on the fitness of individuals wishing to use their operating rooms. Having accepted this most important duty, the board will then be quite prepared, in addition, to see that good board, good nursing and good intern service are rendered.

Next comes a duty not so readily agreed to, viz.: that of seeing that there is an adequate record kept of each and every patient. Some of the men attending patients where the private wards are open, will claim that what disease the patient has and what is done for him is a matter of no concern of any one except the patient and the doctor. One has seen a doctor refuse even to record a diagnosis saying, "It is none of the d—— business of the hospital." The patient may not always choose to employ the same doctor. What about the needs of that same patient in case of a future illness? Just what was done at a former operation may be of the

greatest possible importance. Why should not this all be duly recorded in the files of the hospital? The work now being done by the American College of Surgeons along this line is most important and deserves the loyal support of the medical profession, and the cordial co-operation of hospitals. Hospital treatment of the sick is so important in these days that a record kept in the private office of a physician can no longer be thought to be sufficient. The hospital board must insist on a complete record being on file in their record room. And to carry out this and other policies they will employ a superintendent.

Regarding the place of the superintendent, Dr. Edward Martin has this to say, "If you have a real, wide-awake, up-to-date superintendent, he should conduct things, and not the board of managers. The function of the latter should be to get money and to guide and approve what the superintendent does. A real superintendent will not only help the people, his friends, and his colleagues, but will help the physicians and surgeons on the staff. He will be their executive, he will make the things come true which the doctors want." What more ideal a superintendent could a hospital have than this?

In addition to seeing that the general organization is complete in every department, that the departments all dove-tail into one another, that equipment keeps pace with the growing needs of the hospital, his special contribution to surgery will, for one thing, consist in helping to secure for each patient just what he or she needs. A direct watch should be kept by him on the work in the operating rooms to see that every thing done there is properly done, including the operation itself. His personal opinion would not be final, but would be checked up by the staff. If doubt is expressed about the actual work done by some surgeon, the matter would be adjudicated on by a select committee of the staff. Briefly then, the superintendent should see that each case gets good surgical treatment.

For the proper doing of their work, the surgeons must be provided by the hospital with all that modern science can contribute, and there must be added to this an adequate and competent resident staff. This staff should include thoroughly trained nurses and also sufficient clerical staff to insure the proper keeping of records. For purposes of having the actual steps of the operations recorded, and to save the surgeon's time, the hospital should provide some one to take notes at the operations, or should have a dictaphone in a nearby room for the use of the operator when the case is finished.

In the matter of nursing assistance in the operating room we are probably due for some revision. In many training schools for nurses the idea still holds with pupils, lady superintendent, and Boards of Trustees that the senior "scrub-up" work should be part of the routine and essential training of every nurse. The pupils demand it as a right. The lady superintendent agrees and the Boards so decree.

If the pupils were treated as pupils to the extent of acting as assistant "scrub-up" nurse to a fully qualified nurse, and this for the purpose of instruction only, it would be justifiable. But what really happens is that the economic phase settles it by ruling that only one person must be so employed during an operation, because it is a waste of nurse-power to put two able-bodied women at so small a job.

The pupil nurse at once ceases to be a pupil nurse and becomes the professional for the time being. What defence can be made for the custom still prevalent of having an untrained, undergraduate nurse do the senior nurse's work while a surgeon of years of experience must do the senior surgeon's work? Except in an emergency no hospital has a right to have the patients within its walls, who require operations, subjected to that link in the chain of attendance being so feebly welded as is the case when a timorous pupil forms the link.

Furthermore, probably not more than five per cent. of pupil nurses will be required for this work. Why train one hundred per cent. when ninety-five per cent. will never use the training?

It is respectfully suggested that the custom as it still exists in some hospitals should be abandoned. And in its place it suggested that the essential thing of developing the aseptic habit in the pupil be done by having her work under a fully trained nurse also scrubbed up. Thus any break in technic would be seen and the patient safeguarded by the senior nurse. If nurses are not plentiful enough to do this, then deny the privilege to any except those specially adapted to the work.

With a well organized operating room, good clerical assistance, good records, good x-ray, pathological and bacteriological laboratories, good ward nursing, and good board, the functions of a hospital may be thought to be complete from the standpoint of the surgeon.

Hardly so. One agrees with Kanavel who says, "The hospital must become a diagnostic and teaching centre if it is to realize its highest ideals of service to the physician, the patient, and the com-

munity." But all hospitals are not connected with medical schools. How then shall they become teaching centres? Kanavel thinks "the educational functions of a hospital may be grouped in four divisions: 1st, as to the interns; 2nd, as to the staff; 3rd, as to the profession at large; and 4th, as to the community." On the latter point he has this to say: "The public has always had unstinted praise for knowledge, and in proportion as our profession demonstrates a real scientific spirit, the moral and material support of the community may be expected. No propaganda will be needed then to educate the public as to the fallacy of faith cure, osteopathy or chiropractics, for the rise of which we ourselves are primarily responsible, in that they are the heritage of our aloofness from the public and the mystery with which we have clothed our profession. Science needs no mystery, knowledge no mask, and competence no propaganda. The laity must be taught by lecture and demonstrations under proper auspices. The public is more ready to help us and understand our problems than we have been to take it into our confidence. To win this confidence the staffs and the trustees of the hospitals must have the right ideals in medicine. Efficiency on the part of the one and service divorced from material advantage on the part of the other, must be our ideals. Dividends must be sought in scientific knowledge, in the cure of disease, and in the amelioration of human suffering, rather than in dollars and cents. But let no one doubt that the latter will follow inevitably in the train of the former. The trustees are anxious and willing to do their part, but they must be taught the difference between a custodial and remedial hospital, and a scientific hospital. The trustees and superintendent must cease to feel that their duty ends when they have provided food and beds for patients. Carpentry in surgery must end. Laxness or laziness in diagnosis should be branded as a crime."

One of the weaknesses in the practice of surgery is that men tend to become stationary, and call it standardizing their work. A surgical research department in a hospital would save the surgeons from becoming fossilized. The chief value of research work consists not in the number of new facts discovered, but in keeping all workers still students. The student type of mind, always groping for new light as it does, is a *sine qua non* if a surgeon is going to give his patients their due. A research department, in the surgical service of a teaching hospital, would provide scope for the very alert, active young men of the interne staff. Such men are almost always to be found. The display of energy by these young men

would have a most beneficial result on the surgeons all the way up the line.

This surgical research department does not need to be extensive, nor yet expensive. It should provide facilities for doing entirely new work or for repeating work reported from other laboratories. It would provide an opportunity to test out different surgical procedures and to become proficient in them. It would keep alive that spark of scientific ambition which gleamed brightly in student days. It would prove to be the elixir of a man's surgical life.

Such a laboratory would go far to save the staff from the criticism made by Sweet when he was addressing the Philadelphia Academy of Surgery. "We hear to-day a great deal about the full-time idea in schools and hospitals. Now do not be misled that this idea is being discussed because it has been started at the Johns Hopkins and at St. Louis and is being started in Chicago, nor is it being discussed because the Rockefeller Foundation is behind it. It is being discussed because of dissatisfaction with existing conditions, and unless these existing conditions are changed it will come here. The dissatisfaction is with the men who hold so many hospital appointments that they have not the time to give more than gleanings, even though they are capable of better things, with the men who, having ideas, have only time to pass them on to their assistants, who pass them on to the internes, who pass them on to the head nurses, who pass them on to the probationers, who pass them on to the orderlies, who pass them on to the bed-pan, dissatisfaction with the men who use the hospitals for gaining experience and never hand back to the hospital a *quid pro quo* in the form of crystallized experience or knowledge."

As a unit in the care of surgical cases in well organized hospitals, the surgical staff must of necessity take a very large place. The scientific lead, the inspiration, the thoroughness, the fidelity to the patient's interests and rights, must all emanate from the surgeons. They must stand for all that is essential and all that would be desired for their most intimate friends or loved ones. Then the surgery in that hospital will be what the citizens have a right to expect.

When the patient of to-day is taken care of according to his rights, it might seem that the hospital has done the whole of its duty. What about the patient of the future? They will be as well looked after. By whom? By the same staff? The grim reaper will come along some day. Who will fill the empty places?

New surgeons. Where will they come from? When should direct instruction begin in surgery in the life of the surgeon-to-be? As a student or as a graduate? If as a graduate, should it begin as an interne in a hospital or in a postgraduate, or should it begin when the man gets out into practice? If in practice, should it be with a surgeon or out entirely on his own initiative? Discussing this at the Hamilton meeting last year, the writer had this to say:

"The direct preparation for doing surgery should begin after graduation. It is a grave error to think that operative surgery should not only be taught during the undergraduate course, but that it can be taught on the cadaver. The very high regard a surgeon should have for living tissue is of supreme importance. This cannot be learned by working on dead tissue.

"After finishing the academic term, no student should be given a license, and possibly not a degree, until he or she had served at least one and better two years' residence in an approved hospital. All students, irrespective of whatever specialty they may intend to follow, should have this general training in a hospital. (For men who have got thus far at a fairly early age, say twenty-three or twenty-four, two or three years spent in general practice would be of great value to the surgeon-to-be.)

"At this stage a man who wishes to be a surgeon should begin to get the special training necessary to equip him, but not before. He should now spend at least two years more, and better, three as resident surgeon in some well organized teaching hospital, or associate himself with some surgeon of wide experience and good judgement for an equal length of time. Many young men would most gladly spend this amount of time in a hospital if a fair stipend were offered. Safe it is to say that for the second year's residence in hospital, the interne would be content with even the pay of the operating room orderly. The young man who is willing to spend all these years in training for highly specialized service for the public, is surely entitled to some financial remuneration during the last years of his training, which years, be it remembered, are full of service to the people.

"As the potential surgeon grows in judgement, caution and knowledge, he should have increased responsibility placed upon him even to the extent of doing much work himself, first under the eye of his chief, and later, alone. The man must be given a load to carry all by himself in order to make him realize what responsibility a surgeon assumes when in practice on his own account."

In defence of this it is respectfully urged on this association,

and through it on the medical schools of Canada, that the mass of material that must be worked over by the medical student, is so great that no man can accomplish all that goes before and with diagnosis, let alone adding on top of that the knowledge, and technical skill necessary to carry out the more difficult surgical procedures.

In considering just how much should be taught, during the undergraduate years, of the actual procedure of operations, the following points are suggested as covering probably most of the essentials. First, living pathology should be taught. There are some points in living pathology that can be better taught at the operating table than any other way. . . The pathology back of the hard belly-wall of general peritonitis, due to a ruptured viscus, can be really deeply impressed on the student mind only by his making an examination of the case, and then seeing the inside of the abdomen at operation. The crippling effect of extensive adhesions in the case of a traumatized extremity can be much better taught as an object lesson than by any other method. The same may be said of intra-abdominal adhesion. Second, pathology as a laboratory subject can probably be better taught by a combination of the careful study of the case leading up to a diagnosis, and finally the study of the gross specimen, and of the microscopic section, than the witnessing of the operation. Third, by witnessing some of the simple operations, by studying the detailed steps of the same, and by following the cases afterward, the student will learn something of the possibilities of surgery. He will also learn something of its limitations, a point of no small importance. Fourth, he will learn something of what is meant by surgical asepsis. This will be of inestimable value to him in his practice of obstetrics, a line which most men, in their early professional days, know something of. If perchance the student later makes chest work one of his specialties, the surgical conception of asepsis will stand him in good stead when he wishes to put a hypodermic needle into a chest to see if it contains fluid. Fifth, the preceding requirements will be met while the student is acquiring enough surgical training to fill his needs, if he chooses the work of a general practitioner, when certain emergent cases would have to be operated on by him.

If surgeons are not trained during undergraduate years, what other alternatives suggested above are open? Can a man learn to be a surgeon out of his own general practice? This has been done in the past and could be duplicated again. Is it desirable? These same men would have made better surgeons had they spent time

definitely assigned to learning surgery. Without giving offence to anyone, it may be safely said that the surgeons of the future should not be trained that way.

It can scarcely be longer justified that a man should undertake major surgery, other than the emergent work somewhat removed from a surgical centre, on the patients that come into his hands in the course of a general practice, unless he has first spent some time specially fitting himself for this work.

The early method of gaining a medical education, by a system of apprenticeship to some already established practitioner, may be adopted in the learning of surgery. This method, at the present time, would be virtually reduced to hospital work, because the vast majority of major surgical cases are taken care of in hospitals. In so far as it would not consist of hospital work, the young man, by this scheme, would lose much of the modern methods of making a diagnosis. He would lose much also in the way of after-treatment. The hospital interne is the man who really gets after-treatment in its entirety.

Shall men, after a period spent in general practice, take a postgraduate course and return as surgeons? If that postgraduate course includes a term of internship of sufficient length and breadth, it will fulfil the requirements. This merely reduces it to an internship. An academic postgraduate course, adorned by a course of operative surgery on the cadaver, can scarcely be said to be the road to surgery. It would seem then, that the first alternative suggested above, viz.: as an interne, is the road by which men will, in the future, arrive at the goal of their ambition to be surgeons.

If one may be permitted to repeat, for emphasis sake:—the interne should spend one year at least on general work and then enter the surgical wards for at least two years. During these years of residence in a hospital, much depends on the hospital as to how well the man will be trained. Outside of the duty the hospital owes to the patient, its duty to its interne is one of the chiefest. Safe it is to say many a hospital recognizes no such duty. The view of many a board is that a system of internship is a cheap way of getting labour. This educational duty of a hospital is yet to be taught to Boards of Trustees. For the surgery of the future it is an essential.

Here then, we come to the chief point the writer wishes to make. The surgery of the future must look to the internes of our hospitals for recruits. Therefore the provision of ways and means of training surgeons should be one of the chief functions of teaching hospitals.

To quote further from Kanavel with regard to the educational functions of a hospital:

"What should a hospital teach its internes? First, medical knowledge; second, ideals; third, thoroughness; fourth, imagination. It is the duty of the staff and hospitals' authorities to cultivate all of these.

"The hospital must become a diagnostic and teaching centre if it is to realize its highest ideals of service to the physician, the patient, and the community."

With this one agrees entirely. Applying this statement to the problem of the training of surgeons it is very doubtful if any hospital in Canada has yet come within measurable distance of the goal here set. As a matter of fact, even with the staffs of hospitals, it is very doubtful if any serious effort at the education of their house-surgeons is systematically made.

The actual surgical training should include history taking and the examination of the patient. There should always be held before the interne the ideal of getting as much as possible leading to a diagnosis before the laboratory is called into use. Then the various laboratory and x-ray findings should be used to correct the clinical findings. One cannot but think that laboratory diagnosis sometimes overshadows the clinical efforts. The laboratory should always supplement, but not precede the thorough clinical review of the case.

The completed record of the case should include all the essentials of the progress of the case until it leaves the hospital, be it by the route of the limousine or the morgue. And no case should leave the latter abode till the whole story is revealed by a post mortem. On this point we speak feelingly, because of the very great difficulty, in western cities specially, of securing post mortems.

Assisting at operations is the one thing in the hospitals that looks good to the interne. There may be difficulty in getting him to write histories, follow the after-treatment and do laboratory work, but there is no difficulty in getting him to assist at operations. There is, however, a very great diversity in the amount of actual education for the interne in various clinics. The second point referred to by Kanavel here applies, viz.: the teaching of ideals. The actual conversation over the open wound will determine largely the amount of training the junior gets and will to some extent set the standard of his ideals.

Just how much does the hospital do on these two points for

the interne? Is the hospital all it should be? Sweet asks this question and goes on to answer it.

"Is there any wrong which needs righting? I feel that there is, because for many years now I have watched young men go out from the medical schools with ideals which are certainly broader because of the improvements in the laboratory courses now in force in our medical schools. They go into our hospitals, and the next time I see them their ideals have been changed to the more narrow ideals of pure practice. The laboratory means little to them, the laboratory training in the art of acquiring knowledge has vanished, the use of books as tools seems to have been forgotten.

"Somewhere between the time of leaving the medical schools and completing the years as hospitals' internes, someone has undermined the efforts of the teachers of the medical schools to give to the students a broader point of view. Does the fault lie with the men who teach them in the hospitals, with you as practical men of surgery, or does it lie with the conditions existing in our hospitals? If it is with the conditions as they exist, who shall remedy these conditions?"

The answer to this must be made by the staff. In the future, members of the staff, who do not help make it really worth while for young men to spend several years in a hospital, will have to give place to unselfish men with a vision, men whose glory in life is to help train up the surgeons of the future.

In addition to making diagnosis, record-taking and assisting at operations, the interne will learn after-treatment. There is no way he can learn it other than as an interne. The thoughtful resident houseman gets such a fund of first-hand knowledge on this subject that he really cannot but make it part of his permanent equipment of mind for his future practice.

Acquaintance with the methods and possibilities and limitations of the pathological laboratory will be one of the valuable assets of the resident surgeon. Sweet says:

"You cannot hire somebody to think for you any more than you can hire someone to perform many other of your personal physiologic functions. He who embarks on the surgical cruise, ships for no joy-ride. If we wish to raise the standard of surgery, if we would weed out undesirables, let us get this idea clear before the minds of the aspirants to surgical success, that the real surgeon must know as much as any man in any branch of medicine and

then some, this 'then some' being the whole field of surgical technic."

In preparing for the "then some", what might be called a surgical laboratory should be opened in all large teaching hospitals where actual operations should be done by the resident staff under direction. There also should be scope for surgical research work. The type of mind developed by the effort to do some research work is of inestimable value to the man in the future. The value lies less in what is discovered than it does in the effect on the mind of the student. A man so trained will be much better fitted to profit by the recorded experience of other men. He will be better equipped to select from the literature, methods characterized by saneness. All surgical literature cannot be so regarded.

The men who are chosen to fill the senior resident surgical positions must be selected with care. Once a man is placed in this responsible place, in addition to making it possible for him to complete his education as a surgeon, the hospital and the community owes it to that man that he should receive an adequate monetary return. In the manufacturing world of to-day, the apprentice receives a wage of probably twenty per cent. of that of the expert. The young man who will spend two years in pre-medical training after leaving high school, five years in the undergraduate course, and three or four years' residence in a hospital, should not have to work all those last years without remuneration. This is one of the duties the hospital of the future must accept and cheerfully fulfil. The real hospital is living as much for future patients by training surgeons, medical men and nurses, as it does for the care of the sick within its walls to-day.

THE honorary Advisory Council for Scientific and Industrial Research has converted one of the fellowships established by it into a Ramsay Memorial Fellowship, to commemorate the services rendered to science by the late Sir William Ramsay. This fellowship will be a one year appointment, and the holder will be required to carry on research work in two chemical laboratories in Great Britain which has been approved of by the research council. Its value is \$1,500 and the award goes to the best of the candidates in chemistry, who have already successfully completed their research of some chemical problem of importance.

REPORT ON CINEMATIC AMPUTATIONS

BASED ON A VISIT TO PUTTI'S MILITARY CLINIC
IN BOLOGNA, ITALY

BY

J. A. GUNN, *Colonel C.A.M.C.*

AND

W. E. GALLIE, *Captain C.A.M.C.*

THE work on amputations which is being done at the Rizzoli Institute in Bologna, by Professor Putti and his assistants, Professors Dalatala and San Giorgi, is by far the finest that it has been our opportunity to see. The problem of preparing the wounded soldier, and particularly the soldier who has lost a limb, for return to a useful civilian life, is being studied here in a most careful and comprehensive manner, and we have been convinced that the new ideas which have been evolved will have a permanent and far-reaching influence in establishing recognized forms of treatment.

In searching for an explanation of the success which has attended their efforts, we must first admit the natural genius and industry of the surgeons. In addition we were struck by the excellence of the surgical equipment with which they are surrounded and by the quality of the machine shops and of the mechanics, to whom many of the problems in prosthesis are relegated. Further we observed that in this Institution the number of patients was not greater than could be handled comfortably by the staff employed, and that there appeared to be no urgent necessity for the rapid evacuation of patients, which always interferes with the successful study of chronic conditions. This latter observation will be referred to later in an appended list of suggestions and recommendations, which may be useful in dealing with this problem in Canada.

The central idea of Putti's work on amputation has been the restoration of the greatest possible amount of the destroyed functions, and the masking of the deformity so effectively that the patient will no longer be an object of pity, or a victim of his own sensitiveness to appearing in public. These ideas have been put

into practice by supplying the patients with artificial limbs which most closely resemble in appearance the normal members, and which are activated by the contraction of those muscles which formerly produced the movements of the amputated limbs. When it is impossible to use such muscles, owing to the position of the amputation, other groups of muscles are employed to supply the necessary motive power, and the patient is subjected to the necessary training to enable him to develop skill in the movements. It may here be pointed out that these ideas have been applied most successfully to amputations of the forearm. In the case of amputations of the thigh and leg, the ordinary artificial limb has proved so successful that it is doubtful whether an attempt to use the muscles remaining would materially improve the patient's condition. Certainly the amount of improvement that could be hoped for is hardly sufficient to justify the operation that would be necessary, and the amount of thought that would be required to devise a suitable artificial limb. In the case of amputations through the arm, an attempt to use the muscles of the stump to mobilize the hand and fingers of an artificial limb, is not likely to prove very successful, owing to the interposition of the elbow, and to the great divergence of the new functions of these muscles from those that normally control the movements of the hand and fingers. While Professor Putti has experimented with both these types of cases, it is quite evident from his lack of enthusiasm on the subject that he does not believe that cinematicization has any great field among them. In the case of amputations of the forearm, however, there is every possibility of employing the principle successfully, as here the muscles which formerly moved the hand and fingers are still present, and if these muscles can be successfully connected with movable parts of the artificial hand, movement and power will be restored which will be under the same neuro-muscular control as under normal conditions.

That the principle is correct both in theory and practice has been most conclusively demonstrated to us. We had an opportunity to see between fifteen and twenty cases in all stages up to three months after operation, upon which cinematicization had been performed. The technique of the operation is exceedingly simple and is exactly as described by Putti and Dalatala in their publications on the subject. Any surgeon of ordinary ability can readily master it. The wound is healed firmly in from ten days to two weeks, although a small superficial granulating ulcer sometimes persists for a week or two at one end of the tube of skin which

passes through the loop of tendon. As soon as healing is complete the patient begins to practise contracting the muscles against resistance, and within two or three days has developed a power which is remarkable. This power rapidly increases with practice, and within six weeks has reached its maximum. We saw several cases which had a direct traction power on the stirrup which was passed through the tendon loop, of approximately thirty pounds. In exerting such a pull against the resistance of our grip on the stirrup the patient suffered no discomfort whatever.

About four weeks after operation the patient is supplied with a temporary artificial hand with which he practices the movements. In this way he develops both power and skill. In the meantime his permanent hand is being made. This consists, as do all artificial hands, of a socket and a wooden hand. The socket, however, is exceedingly light, and the cumbersome leather corset which usually encircles the arm above the elbow is dispensed with and replaced by a perfectly fitting vulcanite covered metal ring, placed just above the condyles. The wooden hand is similar to those used in various mechanical arms, except that it is very simple. The thumb is stationary, and the fingers are jointed and movable.

These fingers are connected by means of a strong cord with the rod which rests in the tunnel through the tendon and so respond to contractions of the muscles. A light spring causes the fingers to open moderately when the contraction ceases.

The most popular operation appears to be the one in which the flexors only are used. But we saw one case in which cinematicization had been performed also on the extensors, and it appeared satisfactory. We rather suspected, however, that the harnessing of both flexors and extensors is not always successful. If such an operation ultimately proves feasible, however, its advantage is at once evident, as the movement of the fingers would thus be altogether under normal muscular control.

Among the cases which were in the wards at the time of our visit were some truly remarkable results. One case in particular attracted our notice. It was that of a young soldier who had had amputations of both forearms, one just above the wrist, and the other just below the elbow. Cinematicization had been performed on the stump about eight weeks previous to our visit, and he had been wearing his artificial hand about two weeks. This hand was of much greater use to him than any mechanical hand we have ever seen. He had excellent control of the movement of the fingers, had quite remarkable gripping power, and had a dex-

terity in the use of his new apparatus which could never be acquired with such arms as the Carnes, the Dorance, or any of the others. To demonstrate what he could do, he took out a cigarette case and a box of matches from his pocket, put a cigarette in his mouth, and holding the match box under the other elbow, opened the box with the artificial hand, ignited the match, and lit the cigarette. This may possibly be considered a useless accomplishment, but it serves to indicate the great value of the treatment in assisting such patients to look after themselves. It may be argued that similar things can be done by patients wearing the various mechanical arms. We have to admit having seen one of the demonstrations of the Carnes Company, who had had similar amputations to those of the patient described, do remarkable things with his wooden hands. But it is only after long and faithful practice that such skill can be acquired, and it is practically unknown outside of the demonstrators of the company. We have known but two soldiers out of a hundred supplied with mechanical hands who ever made use of them, or who considered them as more than a medium of disguising their deformity.

Another important feature of the cinematic treatment employed at Bologna, is the utilization of any rotator power that may be present in the forearm to mobilize the artificial hand. Thus, if the amputation is below the insertion of the pronator teres, the patient has strong power of rotation unless the extremities of the bones are fused, or caught in a dense scar. Should such a misfortune have occurred, the first step in the cinematic operation consists of freeing the ends of the bones so that rotary movements will be possible. This rotator power is then utilized to produce rotation of the artificial hand, an addition which is of considerable value, and which is not at present in any of the mechanical hands that we have seen. The movements are transmitted to the hand by means of a cup which compresses the end of the stump antero-posteriorly, and is connected to the hand by means of a metal rod.

Besides advancing the principle of harnessing the muscles which normally produce the movements required, Putti also advocates using as motors any irregularities of the stump which retain movement and power. The best example of this is seen in the patient who has had an amputation of the hand above or below the second row of carpal bones. Here he has more or less powerful movement of a very short terminal stump. This movement is turned to good account by fitting the patient with an

artificial hand in which flexor movement of the wrist stump results in pressure against a metal disc, which in turn communicates flexor movement to the fingers. Thus cinematicization is accomplished without any form of operation. Similarly in patients who have a long stump which retains rotator power, and who decline to have the cinematic operation performed, a moderate amount of controllable movement can be communicated to the fingers of an artificial hand by fitting the end of the stump with a cup which rotates with it and is connected with the fingers by means of a metal rod and a gear.

The success of thus making use of movable stumps or irregularities has led Putti to provide such motors by operative means. We saw one case in which the end of a forearm stump had been converted into two short finger-like processes which acted somewhat like a lobster's claw. By a special mechanical device these processes were utilized to move the fingers of the artificial hand. In other cases the motors are fashioned in the form of pedunculated knobs, around the neck of which are fastened vulcanite covered metal collars which communicate the movement to the fingers. But whilst this method of cinematicization is satisfactory in some cases, we gathered that the operation is difficult, and the result not always certain. Further the application of the power is not so direct as in the method of tubulization. We are therefore of the opinion that the plan is unlikely to become popular.

After the operative movement has been completed and the patient is sufficiently advanced to be fitted with his supply of permanent apparatus, he is provided with an artificial hand and with whatever working apparatus seems suitable to his particular occupation. It is in regard to this latter feature of the treatment that we have our chief criticism to offer. Putti is still trying to make this method of treatment so complete that men who have been artisans may still return to their former occupation. Thus, we saw various types of metal claws, hooks, and clamps, the movements of which were more or less under the control of the patient. None of these appealed to us as likely to be sufficiently successful to make the patient's work satisfactory to himself, or to allow him to compete on anything like even terms in the ordinary labour market. While we saw photographs of men working at lathes and at benches, we were not at all impressed with the apparent success of the effort to return them to their former trades, for we have seen similar photographs issued by the various commissions in charge of National Reconstruction, and by the makers of artificial limbs, and our personal experience has been sufficient to

know that such reports are most misleading. In conversation with Putti also, we gathered that he has been disappointed in his efforts in this direction, and that up to the present he feels that cinematicization has not solved the problem of completely replacing the function of the amputated limb.

But granting the failure of the method to satisfy the high hopes of its chief advocate, the success of the effort has been so great that it is deserving of the highest praise, and of its immediate wide-spreading emulation. It offers to every man, even the ordinary labourer, the possibility of so improving his condition that he is to a great extent relieved of the constant irritation which the loss of an arm causes in ordinary everyday life. Whilst it is not likely to increase the ease with which a farmer, or others who engage in heavy manual labour, can do their daily work, it at least does not lessen their ability to do this work, as the heavy hooks and clamps which are necessary in such occupations can be worked during working hours just as if no cinematic operation had been performed. And even among this class of men, the advantage of being able to write, to act naturally at table, to handle small objects, and generally to conduct themselves while off work in a manner which closely resembles the normal, must be admitted to be very great. To the great majority of those who have lost an arm, however, and who will, in the future, be found in shops, in offices, in professions, and elsewhere where manual dexterity is not the greatest essential to their earning a living, cinematicization will prove a boon which it is impossible to overestimate. And finally for those who have been so unfortunate as to lose both arms, there is no question that the cinematic treatment will immediately change their lives from absolute dependence to comparative freedom and happiness.

We, therefore, wish to recommend that for all Canadian soldiers who have lost an arm, the possibilities of cinematicization be carefully considered. In order that the greatest success may be attained, it will be necessary to place at the disposal of the surgeons the services of an expert mechanic, for, as pointed out already, the surgical operation is only a preliminary to successful treatment. We believe that the artificial limb factory in Canada is already sufficiently well equipped to undertake this work. It only remains to develop a first-class mechanic, who, after he has mastered the principle of the treatment, and the small amount of anatomy that is necessary, can take charge of the somewhat difficult problem of transferring the power which the operation has made available, to the fingers of the artificial hand. When once it

has been demonstrated on a few cases, that cinematization is the boon that we believe it to be, we would also recommend that all our soldiers who have had amputations of the forearm, and who have not been supplied with a satisfactory limb, should be brought back to the military hospital, with a view to operation and fitting with the cinematic arm.

Upon the wider question of the preparation of our soldiers who have suffered amputations of a forearm or arm, for return to civilian life, we have made some observations and confirmed some opinions, which will be included in this report. We have had an opportunity to see the work that is being done in this direction in Canada, England, France, and Italy. While each of these countries is tackling the problem with much thoughtful energy, and great progress has been made in handling this difficult question, we feel that much remains to be done before anyone of these countries can consider that all has been accomplished that the sacrifice of the men deserves.

The principle is accepted generally that the object of treatment should be to make the patient as completely independent and self-supporting as the nature of his wounds will permit. This principle involves the correct treatment of the stumps, the fitting with artificial limbs, and the re-education of the patients to occupations which do not require manual dexterity. With regard to the vocational training of these patients we have no criticism to make. Everywhere the question appears to be receiving ample attention but as to the success of the effort we are not in a position to give an opinion. Of the surgical treatment of the stumps, also, we shall say nothing, as this is a question not relevant to this report. But of the fitting with artificial arms much may be said to show that the present system is a failure. The trouble has arisen from the hugeness of the numbers of armless men who have been suddenly thrust upon us. This has resulted in the overcrowding of our military hospitals, and the overwhelming of the artificial limb factories, so that the emergency could only be met by fitting the men with hastily designed arms and by getting them out into civilian life as rapidly as possible. Now that the rush is over, however, this question is deserving of more careful consideration and an honest effort to reduce the disability produced by such amputations.

In the first place it appears to us that the idea of supplying armless soldiers with any type of a standard arm is doomed to failure. Very few amputations are alike, and certainly it is very rare to find two men engaged in a similar occupation who have

identical amputations. Therefore, to try to make a standard arm for all cases with amputation above the elbow or below the elbow appears on the surface to be folly. And yet this is exactly what each country, our own included, is doing. The result has been, and this is corroborated by our personal experience, that the men accept the arm, and either wear it as a simple sleeve filler or discard it altogether. It is extremely rare for a man to make any practical use of it. This observation means that we must either give up the idea of ever doing anything to help these men in their work, or settle down to study the problem of each individual case, or group of cases, and design apparatus to suit the type of amputation and the work that the man has to do. The complexity of the problem could be reduced by receiving the patients in groups according to occupation. Thus a great many of the men have been farmers, and propose to continue on the farm if they find they can handle the work. These men could be brought into the hospital in as large groups as can be accommodated, and the whole subject of supplying apparatus for farmers studied. It would be necessary to find out exactly what such a man does from morning to night in the ordinary round of work. Thus, he drives horses, handles ploughs and other machines, and is constantly using forks and rakes and so on. If we had a clear outline of this man's daily round of work, it would be possible, instead of trying to fit him out with some form of universal hook which is supposed to do all things, but which really does nothing well, to equip his ploughs and machines, his fork and his harness, with permanent attachments, which he could quickly hook on to an ordinary stump socket, by a simple lock which might or might not be under the control of cinematicized muscles. Similarly the office and shop clerks, the teachers, the labourers, and so on, could be brought in in groups, and the daily life of each studied. In this way appropriate equipment could be supplied which would make our efforts at prosthesis of some real value. While this sounds like a large amount of work, it in reality could be readily accomplished, as there are not many groups into which armless men can be divided, and there cannot be more than seven or eight hundred cases all told in Canada.

We therefore wish to recommend that steps be taken for a complete reconsideration of the question of the treatment of men with amputations of the arm. A great many could be immediately benefitted by the cinematic treatment of Putti and all could be improved by a careful study of the special wants of the various groups of cases.

NOTES FROM THE SERVICE FOR WOUNDS OF THE CHEST

BY N. B. GWYN, *Lieutenant-Colonel, C.A.M.C.*

THE Chest Service, which was organized in 1916, was put upon a firmer basis in the ensuing year by the acquisition of the Red Cross Chest Ward, and we were able to segregate effectively almost all the wounds of the thorax. Four hundred and fifty cases passed through our hands in the nine months of activity, March to December, 1917, and of these, four hundred showed definite evidence of wounding of the chest contents. There were fifty deaths.

The newer surgery of the chest at the casualty clearing stations has modified our work, and our task at present is largely to watch for accidents in the operated cases, and to look for the development of late infections.

In this short paper only a few points can be dwelt upon, such as the routine, clinical features of special interest, and the possibilities of surgical treatment.

The routine of our service is simple, and in our eyes at least, seems to be serviceable; all wounds of the chest are admitted to one main ward; every morning, one or more of the senior medical staff go over the cases with the surgeon in charge of the ward as the dressings are removed. Uncomplicated cases, and those requiring no dressings, are transferred at once, if afebrile, to the medical chest ward for further observation, and aspiration, if necessary. Several sets of exploratory needles are always at hand, and punctures are made early, and often, if the indication is present, the laboratory reporting positive smear preparations at once. Operation as soon as convenient is the rule, but streptococcal cases of infection showing urgency go to the operating room at once. Resection and drainage have been consistently followed out save in the cases to be quoted later.

In the medical chest ward, exudates producing dulness over more than one third of the back, and those showing no evidence of disappearance of the exudate, are aspirated, and if free from fever

Read at the meeting of the Etaples Medical Society, February, 1918.

or persistently sterile to exploratory punctures, oxygen replacement of large exudates is regularly employed. A careful watch for late infection is kept, and no case showing fever is allowed to leave the hospital.

In medical wards we have instituted a rotation of medical officers. Special records are kept of each patient according to the scheme of Major MacDermot.

The numerous autopsies have been recorded and supervised by Major Ower. It is regretted that the morgue of the district offers no facilities for bacteriological examinations, and that material and space for the preservation of specimens is not at hand.

While on the question of routine, the importance of grouping these cases might be emphasized; an unduly high percentage of our fatal cases is composed of chest wounds sent by accident to wards other than the one reserved for them. Even if not overlooked, the following and recording of them out of their proper place is an added and unnecessary detail in a busy service, while it is a commonplace to say that those who are most familiar with certain conditions can best be trusted to observe them early.

The new features met with in handling the cases of chest wounds, and the many interesting details thereof, have been more than exhaustively dealt with by many competent observers, several of whom are present to-day. A few points interesting to both the medical and surgical sides might be touched upon.

One of these is the relatively mild or chronic course pursued by some of the infections due to the gas-producing bacilli.

Urgent as the gas bacillus infections seem to be in the solid unyielding tissues, it is a well known observation that in the chest cavity they may at times run a course almost deserving of the designation, chronic; we see none such in our series of to-day, but amongst the records of the earlier days, I have picked out these case-sheets labelled "gas infections of the chest". They present four first-rate examples, or properly speaking, warnings from the past, from the days when segregation of cases was not practised, and surgical chests were only visited by clinicians "on demand", so to speak.

They are concrete arguments in favour of the proper grouping and inspection of cases which may present the varied clinical pictures seen in chest wounds.

These examples of infection by gas-producing bacilli of low virulence are probably not very rare, and no doubt many of us have become accustomed to consider gas bacillus empyema as a

non-urgent condition, purely as a result of having had a few such cases.

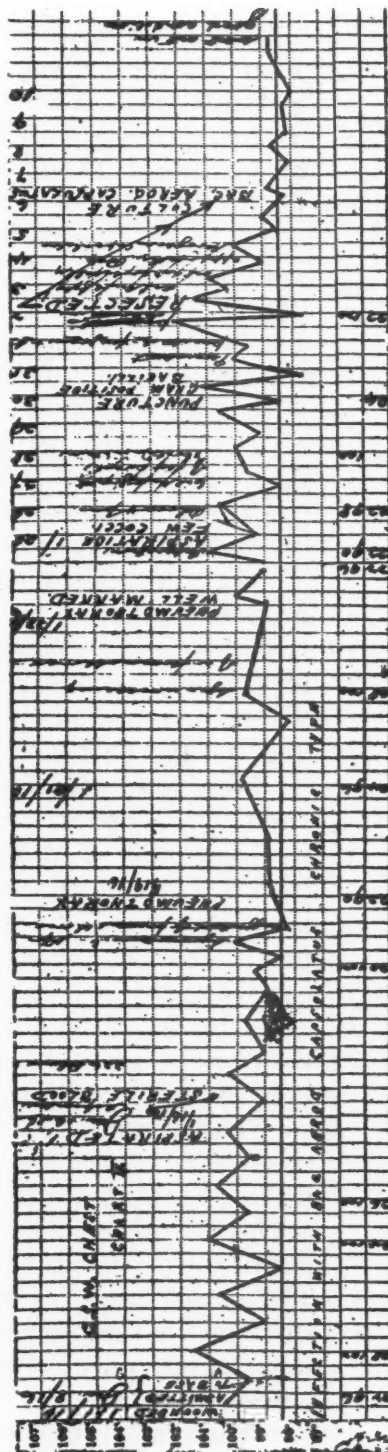
We rarely see and should rarely see the type at present. Careful observation and grouping, plus the proper appreciation of the exploratory needle, have practically removed it from the hospitals of to-day. The apparent chronicity and lack of urgency in these four cases in particular is evidenced, not only by their charts and clinical history, but by the fact that they were under the observation at the time of capable physicians and surgeons.

Civil life acquaintance with pyo-pneumo-thorax due to gas bacillus infection has been very limited. The one instance thereof in my own experience when registrar in a large city hospital, was well calculated to impress one with the idea of chronicity, being a case of jaundice and large liver of several weeks' duration. In spite of the demonstration of the bacillus *aerogenes* in the unsuspected chest exudate, operation was not performed, largely, I fancy, on account of the patient's age, seventy years, and generally poor condition. I was given the privilege of aspirating and following the case to its termination three weeks later, with an angry thrombosis of the left sub-clavian vein. The autopsy allowed us to prove the existence of an inflammable gas in the pleura, the persistence of the infected exudate, but no sign of tissue destruction by the easily cultivated organisms. A scar in the collapsed lung seemed to point to the origin of the infection in the pleura, the thrombus in the vein gave no growth *aerobically* or *anaerobically*.

This unusual history not only demonstrates a more or less chronic type of chest infection, but shows the possibility of an infection from within by an organism, which is regarded by most of us, I fancy, as coming almost invariably from without. Equally drawn out have been some of the rare examples of general septicaemia due to the bacillus *aerogenes capsulatus*. A short detail of history is here in order. Given a place in most text-books, and mentioned I see, by Elliot and Henry in their excellent and accurate description of gas bacillus infection of the chest, is the bacillus of Achalme, described by this writer several years ago, and claimed by him to be the cause of acute articular rheumatism, since he had found it in blood cultures, and in the heart at autopsy; Welsh says this organism is identical with his own: the absence of gas formation in the body was the disquieting point, but in cultures, the bacillus grew out in the typical way.

The cases of acute rheumatism in the Johns Hopkins clinic were at one time carefully studied bacteriologically, seeking this

CHART 4D



"Achalme's bacillus", and from one patient diagnosed "acute maniacal chorea with high fever," the bacillus *ærogenes* was repeatedly cultivated from the blood, during a period of three weeks. Death took place in the fourth week from an added streptococcus septicæmia. There was no gas formation during life nor after death.

Benign as may have been the infections in the charts under consideration and in the two cases above detailed, immediate operation is the only safe principle to be followed in dealing with gas bacillus infections of the chest. Eleven of twenty-three such infections died; seven of them, however, were badly complicated with other conditions, or were dangerously ill on their arrival.

Occasionally an infected pleura may cleanse itself of its gas-forming organisms. Positive smears with persistently negative cultures in a patient progressing favourably have come to our notice on more than one occasion.

Late appearing signs of infection are not peculiar to the gas producing spore-forming organisms. In our series of cases we have had many examples of infections due to other organisms and all pointing strongly in one direction, namely, that no chest wound with an exudate, or chest wound of the class which permits resection and sewing-up should be considered free from danger of infection for from two to three weeks after the wounding or operation. The chart (4d) shows in a striking way how easily a brilliant operation may be nullified by indifferent after-care. In this case a foreign body had travelled from the left buttock through the diaphragm, allowing a hernia of the meso-colon; suture of the diaphragm and pleura had been carefully done; the wound of the chest wall was clean.

Another chart (3d), pointed in the same direction. A chest cleaned out and sewn up, patient fever-free for three weeks, subsequently developed infection.

The origin of those late infections by organisms other than spore-forming gas producers, is not always evident. The two cases portrayed came to us as clean, well-healed wounds, with apparently well-evacuated chests. In neither case does the casualty clearing station report the type of infection, if any, at operation. The persistence of a primary infection in some remote corner or small clot is the probable explanation. A fourth chart (2d) in our series, a late pneumococcus infection of an exudate, suggests possibilities of re-infection from the lung.

The numerous cases of infected exudate, one hundred and

seventeen in number, were subjected to the line of treatment to be detailed by Captain Bunn,—resection, drainage, washing of the pleural cavity—if the patient could stand it without distress, and application of the Carrel-Dakin methods. Amongst this number are included thirteen cases requiring re-opening after the casualty clearing station operation of cleaning and suturing. Seven out of twenty of such cases required no further treatment. Three of the thirteen requiring immediate re-opening, died. Severe wounds with penetration of the abdomen complicated their course.

Envious of the results in chest surgery reported by other hospitals, particularly in their results in the treatment of late infected hæmothorax, I have been frequently tempted to treat such chests by resection, washing out, closure, and subsequent treatment with repeated aspirations. The two occasions on which I yielded to the temptation were associated with results disastrous to the patient. In the first case a penetrating wound was followed by a hæmothorax, which later became infected by the bacillus ærogenes. The man never seemed ill, had at no time a temperature over 99°, and had a slow pulse. The exudate was thin, bloody, and not offensive, and seemed well localized to the lower back. Following the operation of resection, introduction of the hand into the chest, careful cleansing and closing, air was coughed into the tissues, the pleural stitches not holding. The accumulated pleural fluid remained sterile for twenty-four hours. A spreading cellulitis began about the wound. In forty-eight hours the pleural fluid showed streptococci, but no gas bacilli. The patient was now febrile and ill; the chest was reopened, but the conditions became steadily aggravated, and death occurred after ninety-six hours. A well walled-off cavity was found at autopsy.

In the second instance a through and through wound of the lower chest produced an exudate, which after several days became infected with streptococci. The cavity seemed well limited, and the fluid withdrawn seemed clear, though bloody. A careful operation was done, the patient being in seemingly good condition, there was a period of apyrexia lasting thirty-six hours. Puncture after twenty-four hours gave streptococci which would not grow out; puncture after forty-eight hours, removing as on the day previous one pint of bloody fluid showed the same dead cocci. The chest was washed out with saline. By seventy-two hours patient was showing fever and cough. Aspiration now gave actively growing streptococci: there was no relief. The chest was reopened, but death took place in three days. A diffuse broncho-pneumonia had

developed in the upper lobe of the lung, and in the functioning anterior portion of the lower. The cavity was well walled off.

Even if these cases represent unavoidable secondary accidents it is evident that the procedure is not without danger, and is one requiring that attention to detail which only a careful operator can give. We are open to receive all information upon the subject, but insist that unless the operation be carefully detailed and circumscribed, and be put in the hands of a proper person, it is bound to be associated with many unpleasant results.

SIR JOHN TWEEDY, past president of the Royal College of Surgeons of England, and Professor Emeritus of Ophthalmic Medicine and Surgery in University College, London, delivered the annual oration to the Medical Society of London recently. His subject was "The Medical Tradition".

Whether medicine ever became in the popular jargon of the day, nationalized or whether it preserved its autonomy and its influence would be determined by the ability, the personal character, and the moral endowment of individual practitioners rather than by schemes of professional reorganization. While we had other names and other forms of disease than the ancients, and other means of healing, medicine was always the same. Modern medicine was on a surer and more positive foundation than in the days of Hippocrates, but the classification which he gave of the causation of disease, and of the nature and significance of symptoms still holds good. There was not, and could not be, absolute certitude in medicine. The most skilful physician could never be sure of curing his patient, but he could be sure of employing all his knowledge and skill according to the established rules of his art.

CANADIAN DOCTORS AND UNCANADIAN DISEASES

BY JOHN L. TODD

McGill University, Montreal

NO doctor is properly established in his profession who has not a broad understanding of disease processes other than those usually affecting the inhabitants of the locality where he practises.

Once, and perhaps still in isolated communities, medicine could give a satisfying life and livelihood to men who ignored the existence of unfamiliar disease and, guided by symptomatic therapy, found nothing to prevent them from placing each pathological condition encountered in one of the classifications taught to them by their teachers, text-books and experience. To-day, the situation has changed. To-day, in Canada, no serious student of medicine, graduate or undergraduate, can afford to know nothing of the pathology of diseases affecting men and animals in other parts of the world even though those diseases have never been heard of near his home.

It is so for two reasons. First, because with the development of rapid transportation no doctor can limit the diseases which may come to him, or to which he may be carried; second, and more important, increased knowledge of diseases prevalent in unstudied areas has thrown, and is throwing, light upon many of our daily problems of pathology which have been unperceived, misunderstood or unexplained.

Mechanical transportation by water, land and air, has made the world very small. Students from the ends of the earth gather at a university; a score of men from tropical countries study medicine at McGill. There is no part of the world to which a Canadian doctor may not be called; about three hundred graduates of McGill live in warm climates. Nowadays, there is scarcely a disease which is never seen in a city through which an important travel route passes; cases of malaria, hookworm, sleeping sickness, elephantiasis, and relapsing fever are occasionally treated in Montreal.

Look at a map of the world. One of the basic causes of the war was the land-hunger of the millions close-packed in the European

peninsula. Belgium has 665 persons to a square mile; Great Britain, 374; Italy, 330; Germany, 325; Austria, 242; France, 191; just before the war Germany was increasing her population at a rate of about one and a half per cent. yearly; the increase in the rest of Europe was less rapid. Where is the land by which these peoples and their progeny, undestroyed by fute war, are to live? Westward emigration ceases on our Pacific Coast—Japan has 385 persons to a square mile and China 172. Parts of the northern and southern temperate zones are sparsely populated; the United States has 34 persons to a square mile, South Africa, 15; Argentine, 7; Canada, 2; Siberia, 2; Australia, 2. But, already, there are no large unsettled and unappropriated areas in Canada, and the United States will soon import, rather than export, food stuffs.

Look at a map of the world. The tropical belt is usually said to extend between 23° 7' north and 23° 7' south of the equator. In all that area, excepting parts of southern Asia, there are few people and little more than outposts of European civilization. Phœnicia, Greece, Rome, Spain, Portugal, Holland, France and Great Britain, during the past three thousand years have successively and repeatedly endeavoured to establish off-shoots of their stock in the tropics. For a time, some of the colonies were prosperous and seemed likely to be permanent; northern Africa is dotted with the ruins of Grecian and Roman cities; in 1650 A.D. Portuguese Loando had 15,000 persons—now it has about 3,000; the success of Spain's empire in the Americas covered more years than does the history of the United States. Many causes, local and European, economic and political, contributed to the failure of these colonies. One cause and the most important, was always present; the tropics were unhealthy for Europeans. The last twenty years have shown that disease, not climate, caused that unhealthiness. In the last twenty years, means of preventing or curing diseases that were formerly irresistible have been discovered. Europeans, with their accustomed domestic animals, can now work and live in areas where their fathers perished. When the French failed at Panama they had buried 20,000 persons. When the Canal was built, the death rate in the canal zone was less than the death rate of New York. To-day, Europeans spend years in Africa without malaria; yellow fever, already a rarity, may soon disappear from Central and South America; in Northern Australia, a virile, all white population is proving that it can work with its hands and thrive in the tropics.

There are many places in the tropics where extreme heat

combines with lack of water, or with great humidity, to produce physical conditions—a climate—that are almost intolerable. Europeans will not readily live in such places. But, there are thousands of square miles in tropical Africa and in tropical America where heat is never so oppressive as it often is at midsummer in our own Quebec. These are almost virgin lands; they need and will reward richly European road-builders, administrators, engineers, overseers and husbandmen. Africa is no longer a dark continent; it is the largest remaining field for European colonization and it is near Europe. Berliners thought themselves next door to the Persian Gulf; Basra and Lake Chad are equidistant from Berlin. The distances between Newfoundland and Vancouver, London and Lake Tanganyika, Moscow and Lake Baikal are equal; to us, six days of railroad travel is a commonplace. Aerial communication brings Africa still closer. A Zeppelin was over Khartoum with supplies for German East Africa when the German forces there surrendered; it returned, without landing, to its starting point in Bulgaria; a British aeroplane has flown from London to Delhi; airmen have crossed the Atlantic.

If tropical diseases can be overcome as completely as present successes promise, Africa will be developed infinitely more quickly than North America has been; there is no winter; in certain areas, there are two rainy seasons and two crops can be grown annually; there is a large and usually industrious native population. These factors, alone, make it possible to produce many things in tropical countries much more cheaply than they can be grown in the temperate zones. In addition, life in Europe and North America depends upon many products which can be grown only in the tropics; the war taught the blockaded central European powers and ourselves, our dependence upon palm oils, rubber, cotton, tea and coffee. Finally, in long-settled areas, especially in Europe, land is often valued at a figure higher than its productivity warrants; the price of land in sparsely-settled areas is more directly proportionate with the value in the world market of that which the land produces. Consequently, the cheaper lands of the tropics, quite apart from their greater productivity, and sometimes in spite of adverse bounties and transportation costs, are often able to produce essential commodities, such as meat, grain and fruit, at prices which make the competition of northern countries economically impossible. These facts have already taken many investors and workers from Europe and the United States to the tropics, many more will go; doctors must go with them.

Generations of tradition and of economic association urge and draw British youth to the ends of the earth. Already, the men of Britain, leaving "their scarce-cooled guns" are at work in Palestine and Mesopotamia; fruit-farmers from the Okanagan are planting orange groves in the Holy Land, while a joint stock company is irrigating the Garden of Eden! Lacking the British traditions and associations, Germany found an active policy of public instruction in the wealth of tropical dependencies a necessary part of the colonial policy which she commenced after the fall of Bismarck. In every large German town there is a tropical museum and on every book-stall there are beautifully-printed handbooks of travel and commerce in the, once, German colonies. One book indicated how a German might gain wealth in the tropics by asserting that no negro should be permitted the prosperity which enables a native trader in British Lagos to employ a white chauffeur!

Germany realized, and realizes that, under modern conditions, her industrial population of 70,000,000 people can not remain at home without a field abroad from which food and raw materials may be cheaply obtained; at the Peace Conference she seeks to be free to send settlers to, and to obtain supplies from, her former colonies as freely as other nations will do. British, French and Belgian experience, as well as that of the Germans, has shown that with modern methods white men, women and children can live actively and healthily in tropical Africa. Within the next few years, many thousands of Europeans will go to Africa to build railroads, to establish inland steamship lines, to manage plantations and ranches, or to take advantage of the many opportunities for external and internal trade. Doctors will go with them.

To Europe, Africa is a foreland, just as is tropical America to our continent. Canada and the United States already have large interests in Mexico and in Central and South America. These interests will increase and, as they grow, doctors will be needed there also.

Look at a map of the world. Halifax and Glasgow are practically equidistant from Sierra Leone; Halifax and New Orleans are practically at equal distances from British Guiana. And, just as Nova Scotia, projecting into the North Atlantic, approaches Canada to West Africa and to British territory in the West Indies, so is British Columbia Canada's gateway to the Pacific, Australia and the far East; Yokohama is sixteen days from San Francisco and but thirteen from Vancouver. During the year ending with March, 1917, the goods exchanged between Canada and countries

where tropical diseases are endemic had a value of about \$80,000,000. During the war, Canada's manufactured exports increased enormously. Munitions are no longer required; but, Canada has industries such as milling, fishing, lumbering, mining and the manufacture of agricultural implements in which she produces as cheaply as can any part of the world. The output of these industries will increase, not diminish. From our convenient seaboard, more Canadians than ever before will accompany the exchange between Canadian goods and things which our colder country does not produce.

Canadians come of a colonizing stock; their young men wish to go further; through the war, to do largely has become a necessity for many of them. All of these things combined invite Canadian doctors to the tropics. National interest requires that some shall go. The personal interest of those who do go will not suffer, for they will be well paid in things—money, consideration, understanding—that men desire. Those of our young men who go to these, the latest of the promised lands, will do well. They are fitted for the venture, and Canada's name in the war has everywhere earned for Canadians a new and a wider respect.

The factors which will take increasing numbers of men from temperate to warmer climates will have a reverse effect; more men than before will go from the tropics to colder countries. These will bring their ills with them and Canadian doctors, even those practising in country districts, may easily meet patients with outlandish ailments. Recently, in Colorado, every-one of a picnic party developed relapsing fever; it was found that the disease had been caught, with lice, from a group of wandering Bulgarian gypsies. Allusion has already been made to the occasional cases of exotic disease which are never absent from every northern centre of population—Liverpool and London maintain special hospitals to care for them. These diseases may become, for a time at least, endemic; for years, now, plague has been constantly present along the Pacific Coast of the United States; as a result of the war, there have been in England many cases of malaria, and in France of spirochætal bronchitis, among persons who had never left their home-land.

It should not be forgotten that diseases are often called "tropical" because they are now most usually seen in warm countries. We, who live in the northern temperate zone, should not forget these facts; malaria has killed its thousands about Oxford and Chicago, in Southern Ontario and in Flanders; hookworm is as fatal to miners

in Cornwall and Northern America as it is to the poor whites of the Southern States. "Tropical diseases" exist wherever the required conditions are present; if these conditions are altered, the diseases disappear from "unhealthy" tropical countries just as they have disappeared from our own "healthy" temperate climate.

Every Canadian student of medicine should know enough of tropical diseases to deal intelligently with them, should he be called upon to do so either at home or abroad. That is a sufficient reason, but there is a second and a weightier one, for providing instruction in tropical diseases at every medical school. An acquaintance with tropical medicine is essential to a proper understanding of disease, its recognition, prevention and cure.

Twenty-five years ago, comparatively little was known of tropical diseases. Since then, much work has been done. Schools of tropical medicine exist in many of the world's universities. Investigators have been sent to the tropics from every active nation. The records of their work and observations from medical men, hospitals and research laboratories in the tropics form an enormous literature, printed in an extraordinary number of languages; there is no division of medicine which supports so many special periodicals, reviews and quarterlies. The field is a rich one. Researches made in it have been exceedingly fruitful. The discoveries made have been valuable in combatting tropical diseases, and they have thrown light upon unknown things in diseases of temperate climates and, more important, they have widened our understanding of health and disease.

In the tropics a physician can never lose sight of man's relative position in nature. One who studies tropical diseases is not permitted to forget that man is an animal who, in conflict with other living beings, visible and invisible, is continuously striving to maintain himself. He is not permitted to forget that nothing in nature is fixed; that classifications are only convenient aids to memory—for living things will not remain within the limits of a description which once was accurately theirs; that man's immunity against pathogenic organisms is maintained by a constant struggle with those organisms; that these organisms constantly change their character so that the immunity, potent against one strain of an organism may not protect against another strain although it comes from an identical parent stock.

In the tropics, one is not permitted to forget that since man is an animal he often suffers from the same diseases as do other animals about him. In Canada, one sometimes forgets that dogs

have hydrophobia, horses lock-jaw, and we remember that human is different from bovine tuberculosis. The discovery that Texan cattle-fever was transmitted by an intermediate carrier, a tick, gave the cue to similar processes in many human diseases; mosquitoes transmit malaria, filariasis and dengue; lice carry relapsing fever, typhus and trench fever. A study of the malaria of birds explained the life history of the parasites of human malaria. Attempts to cure the trypanosomiasis of animals showed the way to our modern treatment of syphilis.

As a rule, a practitioner in the tropics knows more of the cause, process, prevention and cure of the diseases with which he deals than does his confrère who works in a Canadian hospital. The directness of the indications for specific action, and the inevitable promptness with which the proper action is followed by the expected result, make those who are accustomed to deal with tropical diseases impatient of unexplaining empiricism and determined in refusing to be blind to unsatisfactory practice even though it be established by custom.

The destruction of mosquitoes, and the consequent prevention of mosquito-borne diseases, such as yellow fever and malaria; treatment by arseno-benzol which destroys the spirochætes of relapsing fever, syphilis and other diseases of similar causation; the exhibition of ipecac and the alleviation of amœbic dysentery; these are all instances of efficient, direct and specific action that are not easily paralleled in the everyday control of those diseases which are not usually known as tropical. Practice in a field where right methods achieve specific success makes a demonstrated diagnosis necessitous and always sought. The microscope is the basis of a doctor's work in the tropics; he sees the cause of his patient's disease before he attempts to cure it. For him, the days of "therapeutic tests" and "clinical syndromes" are fast passing; he is accustomed to direct methods.

During the war, a knowledge of tropical diseases helped to a recognition of the part played by lice in the transmission of trench fever and to a search for the animal host the—"reservoir"—of the spirochætes causing Weil's disease and seven-day fever; the spirochætes causing these diseases are found in the kidneys and urine of, respectively, rats and mice. In western North America and elsewhere ticks sometimes cause fatal paralysis in children; had the transmission of disease by "insects" been a familiar idea to those who practised in these places the nature of the disease would not have remained so long unrecognized.

Most of the known causes of disease in temperate climates are bacteria. Some of the diseases of tropical countries are also caused by bacteria; but the best known of them are due to protozoan parasites. Some of them are associated with organisms of uncertain position and of a few the cause is still unknown. The protozoan parasites are much larger than bacteria, and are often actively motile. For this reason, they can be seen with the microscope much more easily than can bacteria. Their visibility is doubtless one of the reasons which have caused so much work to be done in tropical diseases and which has contributed to the success of that work; it was one reason which led Ehrlich to use trypanosomes for the researches which gave "606". Many problems of tropical disease remain to be solved; many schools of tropical medicine and many laboratories in the tropics offer facilities for their solution. No other field of study offers more entertainment and greater probability of satisfaction to post-graduates who wish to do research work. And, nearer home, there are things to be done by methods which have taught much to those who study the diseases of hot countries; almost nothing is known of the protozoan parasites of Canadian fauna—and flora; nor do we know how ticks paralyze children and lambs in British Columbia.

It is repeated, every Canadian student of medicine should know something of the diseases that do not usually occur in Canada; he should know something of them because he may be called upon to deal with them and, more important, because a knowledge of them is necessary for an alert and comprehensive understanding of human pathology.

THE International committee of the Red Cross announce that the central bureau founded in Vienna to fight epidemics in Central Europe, includes delegates from Poland, German Austria, Hungary, Jugo-Slavia, Ukraine, Czecho-Slovakia, and Rumania. The bureau proposes by means of contributions from the states interested, to assemble a fund for the purchase of medical necessities, co-ordinate the efforts of the governments, establish a sanctuary cordon and generally interest the whole of Europe in the dreadful plights of the peoples who are being decimated by epidemics. Sir David Henderson, director-general of the League of Red Cross societies, has been consulted by the sub-committee directing the undertaking, and he affirms that the establishment in Geneva of the capital of the League of Nations, will greatly facilitate joint national action.

GLYCOSURIA IN PREGNANCY

BY MALCOLM H. V. CAMERON, M.B.

IN 1910 I encountered my first case of glycosuria in pregnancy. My patient consulted me in her fifth month of gestation, and in the routine examination of her urine, I found a reducing sugar in small amount. I made inquiry among my senior colleagues in the hospitals and was assured that a transient lactosuria was a very ordinary concomitant of pregnancy. The literature I then studied confirmed their opinion and I ceased to worry, especially as I found no sign of sugar after the sixth month. The confinement was tedious and chloroform was used to the extent of nearly two ounces. Recovery was uneventful and the patient went to the country to recuperate. She developed an insatiable appetite within a week after this and three weeks later died in diabetic coma despite vigorous treatment. Since this case occurred I have had four hundred and sixty-eight obstetrical cases and have found glycosuria in four. I have permission also to mention two in the practice of Dr. Victoria Reid and two in that of Dr. D'Arcy Frawley. A brief recital of these cases will illustrate the few suggestions as to causation and management of the condition which will be presented in this paper.

Mrs. D., aged twenty-five, primipara, first consulted me in the fourth month of her gestation, May, 1916. In June I found definite glycosuria. Dr. H. M. Tovell determined her carbohydrate tolerance and managed her diet. She was kept sugar-free after July 15th. She was delivered under hyoscine and morphine in the Burnside Hospital, October 24th, 1916. The baby was small, ill-nourished, and only breathed once. Many observations have been made in the interim and her urine has been sugar-free until October, 1918, when she reported herself as three months pregnant. Glycosuria was noted in the fourth month and was immediately brought under control by limiting the diet according to the tables presented by Dr. Tovell in 1916. A trace of sugar was found in

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the last specimen examined, the patient being in the seventh month. She is again noted as case five in this series.

Mrs. S. W., aged twenty-eight years, primipara, brought her first specimen in April, 1918, her fifth month, and glycosuria was discovered on examination. She was at once starved for twenty-four hours and her carbohydrate intake gradually increased according to Joslyn till her tolerance was reached as determined by Dr. Olive Cameron. The diet required constant supervision because of a persistent polyuria until her confinement, August 26th, 1918, when she was delivered of a well-developed male child under morphine and hyoscine with a small quantity of ether in the second stage of labour. No return of the glycosuria has been noted.

Mrs. W. A., aged twenty-five, showed no sign of glycosuria during her first pregnancy, which terminated happily on December 28th, 1916, nor was there any observed until the last month of her second pregnancy. She had a quick and easy delivery conducted, during my absence, by Dr. W. W. Lailey. Specimens of urine examined since then have not shown any trace of sugar until two weeks ago, seven weeks after confinement.

Dr. Reid's cases included a multipara who in four pregnancies showed glycosuria. Each succeeding gestation presented greater difficulty in securing a sugar-free urine, but no diabetes has developed since the birth of her last child. The second case in this series is still under treatment in her last month. She is being restricted practically to vegetables of five per cent. carbohydrate as a diet, but so far has shown no diacetic acid or acetone. There is an associated incompetence of kidney in this case.

Dr. Frawley told me of a case in which a patient, to whom he had been called in consultation, died in diabetic coma ten days after delivery, although the attending physician had satisfied himself that there was no glycosuria at least in the late months of the pregnancy. His latest case was delivered two weeks ago. This patient shewed a true glycosuria of two per cent., or slightly less, for two months before delivery, although she was in apparently excellent health. Examination since delivery has shewn a gradual disappearance of the sugar.

In eight of these cases glucose was, beyond any question, the sugar found. Dr. Reid's first case may have been lactose. My first case must have been glucose, although no differentiating tests were made. In all of the others the fullest examinations of a qualitative nature were done. In two of the cases a condition of true diabetes existed. My first case was evidently diabetic or almost

so before her confinement. For years I have been blaming myself because of having given the chloroform which might have induced the acidosis which precipitated the onset of acute diabetes from which she died. This idea was sustained by another case which came under my notice in which a lad of seventeen, known to be diabetic and under strict diet, was passing urine containing one half of one per cent. sugar. He sustained a Colles' fracture and the nearest practitioner was called, who administered chloroform before reducing the fracture. Two days later the urine was examined and found to contain two per cent. sugar. The diabetes progressed rapidly and the boy died about two months later. I am assured that the labour in the one case and the trauma in the other had probably much more to do with the onset of the diabetes than had the chloroform. At the same time it would appear to be most unwise to use chloroform during confinement in these cases.

In Dr. Frawley's first case it is more than likely that a diabetes of pancreatic origin existed before pregnancy began, but that the foetal pancreas served for both maternal and foetal organisms until delivery occurred, when the strain of labour made a demand upon the metabolism of the mother that it was unable to meet in the absence of the temporarily engrafted pancreas of her child. This may also have been the explanation of my first case. Such cases as these without the tragic ending may justify French, in Latham and Crile's work, in saying that some cases of diabetes improve under pregnancy. The other cases require explanation. It is too easy to say that lactose is excreted when the lacteal glands begin to undergo hyperplasia in the months immediately preceding lactation and will be found in the urine. Undoubtedly lactose may appear in the urine and may mean nothing more than the normal stimulation of mammary glands as they are being prepared for their function after the birth of the child. It is also true that glucose may be found in the urine from the same source. An inverting enzyme may break up the lactose into galactose and glucose and the latter be excreted if it cannot be stored in the muscles or the liver. In either of these instances the sugar may be depended upon to disappear from the urine after lactation begins. This simple explanation may be sufficient in many cases but in very many more it is quite inadequate. The excretion of sugar in any form or degree is a matter of derangement in metabolism that is much more complex than can be so briefly indicated, and when the further derangement of pregnancy is added, the complexity is vastly increased.

It is not within the scope of this discussion to attempt to unravel the relations and inter-relations of organ and function in the processes of metabolism, normal or abnormal. I merely beg to offer one or two clinical observations which bear upon the subject.

Dysfunction of the pituitary gland may result in acromegaly and this has frequently associated with it a condition of glycosuria. Dysfunction of the thyroid gland may result in Graves' Disease and this has frequently associated with it a condition of glycosuria. In either case an imbalance in metabolic process occurs, and the cause of such imbalance must be ascertained, if these alterations in function in the glands mentioned or in other glands of the endocrine system are to be explained.

Pregnancy, as we know, does demand a hyperplasia of the thyroid gland, and, as we know almost as well, of the hypophysis also. The generation of the auto-catalyser, by which growth is maintained or accelerated, belongs to the anterior lobe of the pituitary body, as the experiments and conclusions of Brailsford Robertson have placed beyond peradventure. The provision of this catalyser demands a hyperplasia which may run beyond the necessities of the case or which may involve the posterior lobe of the pituitary body, in which case acromegaly may, presumably, develop. This is illustrated by a case in my practice in which a young woman of prepossessing appearance showed, in the last month of her first pregnancy, changes which were strongly suggestive of acromegaly. The skin became coarse, the lips thick, the voice altered and the face acquired a heavy look quite different from her normal appearance. She speedily regained her beauty after her confinement. In her case there was no glycosuria for a reason to be given later. Should this involvement of the posterior lobe affect chiefly or entirely the pars nervosa a condition of polyuria and polydypsia may arise. Of this I have one illustration. A patient now under the care of Dr. Frawley is secreting twelve to fourteen pints of urine daily which has a specific gravity of 1002, but shows no pathological content. This must be of pituitary origin as, were it due to sclerosis of kidney tissue, there would be hyaline casts and other evidences of kidney disease.

The bearing of all this upon the subject is made evident by a careful reading of Cushing's experiments upon the pituitary gland. The condition of pregnancy calls forth a hyperplasia of the hypophysis in order to produce the auto-catalyser of Robertson. This is expended upon the growth of the foetus or, in the case of the young patient, upon the growth of the mother as well. This hyperplasia,

as it affects the posterior lobe, results in a condition of hyperglycæmia with decreased carbohydrate tolerance, and this, added to the normal hyperalimentation of pregnancy, may result in glycosuria. Should the hyperplasia affect the pars nervosa chiefly, a polyuria, without glycosuria or diabetes insipidus, will follow. Thus it appears that the relation between diabetes insipidus and glycosuria depends upon the very narrow margin of chance, that in a general hyperplasia of the pituitary body in its posterior lobe the pars nervosa acquires a stimulation greater than does its epithelial envelope. Again, should the epithelial portion of the posterior lobe fail to take part in the general hyperplasia or should its secretion be hindered in its entry into the cerebro-spinal fluid, a condition simulating hibernation results. The patient displays a syndrome of adiposity, mental sluggishness, increased carbohydrate tolerance and a definite hypoglycæmia. Should the hyperplasia affect chiefly the anterior lobe, the hyperglycæmia mentioned will not occur and thus, although acromegaly may develop to an extent, glycosuria will not be its accompaniment, although acromegaly usually is associated with glycosuria as the whole gland is affected consistently. This explains the case I have instanced.

The practical conclusions to be deduced from the consideration of this group of cases are important. In four hundred and sixty-eight cases of pregnancy, five cases of glycosuria have been found. In four of these the sugar was definitely identified as glucose by either the fermentation or osazone tests. In the other the patient died of diabetes. The inference is obvious. The finding of a reducing sugar in urine from a pregnant patient is a serious matter. Lactosuria may be a trivial affair, but before a patient whose urine reduces copper hydroxide in a test solution is dismissed as being in no serious condition, the fullest tests should be performed to ascertain if lactosuria be the real condition or not. In my cases lactose was completely excluded. Where glycosuria exists, true diabetes may be about to manifest itself or may be already in existence. The causes of glycosuria other than diabetes have been indicated. Such of these causes as are consequent upon pregnancy and which cease to operate once pregnancy is ended, merely require careful management until they disappear. A regulation of diet more or less strict will keep the symptom in abeyance. A careful selection of anæsthetic and any means possible to lessen the shock of delivery will perhaps prevent the onset of such changes in the endocrine gland system, already strained beyond the normal, as are indicated by the glycosuria and which might result in diabetes. The diag-

nosis of true diabetes in these cases is of supreme importance. Should the glycosuria be controllable by diet regulation, the frequent examination of the urine may be sufficient to protect the patient during gestation. This will not, however, decide whether or not her diabetes is under control because of foetal hormones. nor will it differentiate a glycosuria due to hyperalimentation or secretion of inverted lactose. The only means of arriving at definite conclusions is by estimation of sugar in the blood. The method is simple provided one has a proper colorimeter. Any one who can make a hæmoglobin estimation with a Sahli apparatus may make a sugar estimation with the proper equipment. In all cases in which sugar occurs early in pregnancy or persists after delivery, a test should be made in order to determine whether or not a hyperglycæmia be present. It can do no harm if carried out in any case of glycosuria and may be the means of averting tragedies such as two of these cases have presented. The ingestion tests for carbohydrate tolerance would arrive at approximately the same conclusions but they are difficult of execution and may be most disagreeable to patients already in a state in which nausea is an ever-haunting spectre.

AN alarming increase in the cancer death rate is noted by Dr. Francis Carter Wood, director of the Crocker Special Research Fund of Columbia University and of the pathological department of St. Luke's Hospital. The increase in England and Wales has been enormous and Dr. Wood believes that the same phenomenon will be observed in the United States during the next year or two. For a great many years cancer has been slowly increasing in England, though physicians are at a loss to account for the increase.

In the United States in 1914 the death rate was 79.4 per 100,000. In 1900 it was 63 per 100,000. But this does not compare with Switzerland, where it was 126.7 per 100,000. Under Dr. Wood and Professor William H. Woglom, a course in cancer research will be given at the Columbia Summer School in the Crocker laboratories. The work will consist of lectures and laboratory exercises. The classification of human and animal tumours will be first considered. The method of transplantation of tumours in animals will be shown. The simpler procedures for fixing, sectioning, and staining tissues for diagnosis will be demonstrated.

VITAL STATISTICS—WHAT THEY TEACH

BY JOSEPH-WILFRID BONNIER, M.D., D.P.H.

Chief of the Division of Vital Statistics of the Province of Quebec

YOU often hear, sometimes with a touch of irony, that figures are dangerous weapons, that they can be made to say almost anything. Only those who do not know what statistics mean will speak in such a manner. Statistics are like some instruments which may injure those who do not know how to use them, but this does not establish the fact that instruments are useless.

Statistics are of value in every line. They are in use everywhere nowadays. The business man, the merchant, the captain of industry, the financier, etc., cannot succeed without them. To attempt to proceed without them is like talking in the dark, or sailing without a compass.

Go and hear a lecture, a speech, or read an article on some important question, and you will notice that figures are always enlisted to strengthen the argument.

Governments of all countries recognize, more than ever before, the importance of obtaining accurate statistics, which are published each year in the official reports, in order to determine the resources of the country.

But, what is more important, for a people, is to know the human capital, its gains from births and immigration, and its losses from deaths and emigration.

The true wealth of a country lies not solely in its lands, its waters, its forests, its herds, its dollars, but also in the health and welfare of its inhabitants.

A healthy man is worth more than a sick man; a young man, in all his strength is worth much more than an old man or a weak child; a married person much more useful than a mere bachelor.

Hence the importance that a government know the number of its inhabitants, their age, sex, social conditions, occupation, nationality, their birth rate and death rate.

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There is one particularly striking fact brought out by the study of vital statistics: that is, the constant decrease in the birth rate and death rate in all the civilized countries.

I am glad to state that, during the four years of this horrible war, the birth rate in our province has decreased very little, while the death rate has fallen noticeably, especially during 1917.

Let us consider the factors which render the modern hygienist apprehensive of the future. They are numerous, but I shall cite a few.

For over two generations, the birth rate has been smaller each year, because people marry at a much higher age than they did in earlier time. It follows that these late marriages are less productive than early ones. We think to-day, only of leading a selfish life and of getting all the pleasure possible out of it. Before marrying, the consorts often agree as to the number of children they shall have, without any regards to the divine laws and country's interest. Women are taking up all sorts of trades, more or less harmful to their delicate nature and antagonistic to their noble function of motherhood. The working woman is independent. They object to being tied in wedlock. They live as they please. And, in certain countries, the divorce laws are too lax and cause the ruin of numberless families.

Another great cause of the low birth rate has been the war, which has taken thousands of young men who would normally have married and reproduced. Among those who have returned, many are mutilated and physically unfit to marry.

I have also stated that the general mortality rate is reduced each year. Why? The following are the principal causes:

Preventive medicine, which, with its vaccines and serums, save thousands of lives each year.

Curative medicine, which is perhaps the most progressive of all sciences. The art of healing is practiced with more success to-day than formerly. Children who were formerly left to die now receive proper treatment. A child congenitally sound, unless he be taken away by accident or a severe contagious disease will live if he be given a rational treatment and appropriate diet. The life average is longer to-day than a generation or two ago.

Surgery. The surgeon of to-day undertakes without fear most hazardous operations, which he would never have dared before the discovery of antiseptic methods. His wonderful instruments effect miraculous cures.

Sanitary engineering, with its modern methods of water purification and sewage disposal.

The protection of working classes and shorter working hours for women and children which have a tendency to reduce labour accidents.

Greater popularization of public and personal hygiene. This comes from the activities of life insurance companies, from philanthropists, social workers, public lectures and diverse publications.

Finally, *lower birth rate*, which is by far the principal cause of lower death rate. In fact, where there are less children, there are generally less deaths to register.

If we are to understand the influence the birth rate has on the death rate, we must know that the infant death rate is always very high in the first year of life, hence the absolute necessity of studying with care the mortality rate at different ages of life from 0 to 15 years, 15 to 60 years and then from 60 upwards.

The death rate of children under one year is always very high. This rate falls rapidly during the second and third year to reach its minimum between the ages of 12 to 15 years, then ascends slowly but surely up to 60 and 65 years; it then rises rapidly to the extreme limits of life.

Comparisons which we, sometimes, try to make between the general death rates of two municipalities, two cities or two provinces, often have no value and do not mean anything, because no account has been taken of the different ages, of the population, sexes, social conditions, nationality, occupations, etc., etc.

To attempt to compare the mortality rate of two localities, where one contains many young children and old people and the other many young adults but few children, and few old people, would show ignorance and dishonesty.

To demonstrate the importance of my argument, let us take two cities, A and B, each of which has a population of 1,000 inhabitants, but differs in this that A has 100 children from 0 to 10 years, while B has 150 of the same age.

If in the two cities the death rate among the children under 10 years is 50 and the death rate of persons over 10 years is 15 per thousand, and if we apply these specific rates to the number of persons under and over ten years, we find that, in the city A the general mortality rate is 18.5, whereas in the city B, it is 20.2 per 1000 inhabitants.

This marked difference is due to the fact that, in B, the number of children under 10 years is one third larger than in A.

It is plain that in a comparison between two cities, two countries or two provinces, we must first establish the exact figure of the population, subdivide it into different groups of ages, study the sexes, social conditions, occupations and nationalities.

If these distinctions are not made, it is not right to compare a residential with an industrial section, a summer resort with a manufacturing town, a rural community with a city. The western provinces, with a population composed mostly of young adults with better chances of long life, cannot be compared, from a statistical point of view, with the old provinces of the east, with their numerous population of children and old people, whose mortality rate is always higher. It is evident that such comparisons are often made with the purpose of disparaging the province of Quebec. There is often no mention made of our large infantile population which would explain the high general death rate. I may state that the census of 1911 showed that the province of Quebec, in spite of its inferior population, had 42,500 children, under ten years, more than the province of Ontario.

In conclusion, let me tell you this: Always beware of statistical comparisons; never accept them without careful study, to be sure that the basis of comparisons are just and comparable between them. Always differentiate the populations, in order to know the groups of ages, sexes, etc., and, when a population includes high proportion of old people and young children under 15 years, do not be astonished if the death rate is higher. It is only natural that it should be. If, on the contrary, the population is largely composed of young adults, the death rate is lower, unless exceptional causes, such as epidemics, accidentally raise it.

THE NERVOUS CONDITIONS ASSOCIATED WITH INFLUENZA

BY GOLDWIN W. HOWLAND, M.D.

Neurologist to the Toronto General Hospital

THE nervous side of the late influenza epidemic may be considered from two aspects, namely, that of the general practitioner and that of the specialist. It would be unwise for me to attempt to discuss the conditions met with by the physician in general practice as among the hundreds of cases you have seen, my experience would be but a drop in the sea of your experience. But yet I must once more draw your attention to the very marked toxic affection of the vaso-motor system, resulting in the cyanosis which marked so many of the worst cases, and which would vary even as one examined the case.

This influenza plague exhibits on its nervous side, the same characteristics as one sees in the related phenomena of the respiratory system, namely, a condition in which the resistance of the individual is so lowered that other infective organisms are given the opportunity to attack the system, organisms which, under normal conditions, would have been easily repelled by the guards of the body, and as a result we find a new set of diseases, rarely encountered in our yearly routine and in some cases entirely new to our former experience.

It is of the greatest interest to notice that this acute group of infections following influenza may be localized in quite different parts of the nervous system, and it is necessary to separate the following groups:

- I. Acute peripheral neuritis.
- II. Acute poliomyelitis of influenzal origin.
- III. Acute encephalitis inferior.
- IV. Acute encephalitis superior.
- V. Acute toxic psychosis of influenzal origin.

While these forms of the epidemic may be distinguished, yet

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it is necessary to emphasize the fact that between these groups there are many types made up of cases in which there is a combination of the signs of psychical, encephalitic, and neuritic symptoms, so that the acute infections of the nervous system following influenza should be termed acute encephalo, myelo-neuritis, with the proviso stated that the disease tends to localize itself as a rule in encephalon, bulb, cerebellum, cord or peripheral nerve.

In contradistinction to these generalized conditions, one must take up a second division of the subject, and call attention to the fact that all types of local conditions occurred after the epidemic and two classes of these must later in this paper be referred to, namely the local neuritides, and the psycho-neuroses.

Acute peripheral neuritis.—The following case, presented to-day, shows the neuritic class fairly well. This young lady had an attack of an infection in February, followed one week later by recrudescence, or an attack by an allied germ, with headache, vomiting, and coryza. On attempting to get up she found she was weak in the legs and arms, and this condition has persisted up till now, gradually getting worse for the first few weeks. Her sensory symptoms at the time were numbness in the hands, pains and numbness in the legs with cramps of the muscles. On examination to-day, she has a decided but mild anæsthesia of the neuritic type in the legs extending up towards the knees but gradually diminishing in the upward direction. There is no marked loss of sense of position, which may be present in these cases. The bladder and rectum have escaped.

There is, on the motor side, a characteristic symptom that has been almost diagnostic of all this group of acute influenzal infections, namely, facial paralysis, and this is on both sides. The muscles show the characteristic grouping, namely, the whole limb is affected and the proximal as much as the distal end, indeed, some authors have stated that the proximal being more affected than the distal part, is a diagnostic point, but in this case presented the neuritic tendency or localization is the more marked, and I think the distal slightly more involved. But there is no segmental grouping to the atrophy, and this separates the case from the typical infantile paralysis cases, while the sensory symptoms isolate it from Landry's paralysis. The reflexes are diminished and, indeed, lost at the knees.

Poliomyelitic or myelitic group.—To distinguish this class from the neuritic is almost impossible, and it is probable that both types are pathologically on the same footing. With the same onset, the

same paralysis, it might be better clinically to isolate the cases with proximal paralysis of limbs and with no peripheral loss of sensation under this myelitic class, but the treatment and prognosis are in no way dependent on the diagnosis, and it is better to look on the cases as being pathologically of myelo-neuritic origin.

The encephalitis inferior cases.—As we ascend towards the brain-stem we enter the field of cases very improperly called the lethargic encephalites. The simpler cases of this class show symptoms almost wholly due to implication of the brain stem.

The following patient well illustrates this type of case:—This man in February, after a slight cold, noticed that he could not lift the side of his mouth. By the next day both sides of his face were paralyzed, and his eyelids showed ptosis. These are the cardinal group of symptoms in lethargic encephalitis, namely, ptosis and facial paralysis, and I would like to remind you of the associated facial paralysis in the myelitic group.

He also was found to have diplopia from paralysis of the external rectus. Then there was a slight difficulty swallowing from vagus affection, and a general sensation of weakness and fatigability and great mental lethargy, showing the approach to a superior encephalitis. The reflexes were active and the progress of the case was to recovery.

Turning aside from this case to others that have been reported, innumerable other symptoms may occur from lesions in the pontine and associated regions, such as deafness, giddiness, tongue paresis, inability to move the eyes laterally, palate weakness, and so on, and with these cases there were all degrees of lethargy and cortical involvement.

There is one group of these cases that may be given a separate position and that is those associated with cerebellar like symptoms, that is, the cases with marked ataxia and tremor with usually some brain stem involvement. While there are certainly cerebellar types, yet it is difficult to feel sure that many of these are not due to cortical conditions. If one now takes into consideration that the encephalitis inferior cases are frequently associated with encephalitis superior affection, it becomes comparatively easy to pass to the types where the signs are purely in the upper brain areas, *i.e.*, encephalitis superior.

A typical case is that of a woman who developed an infection, and in a few hours became so lethargic that it was only with difficulty that she could be roused from her semi-comatose state. With

no signs of meningitis, yet she gradually became more and more lethargic, and died in five days.

Associated with cases and frequently with those less severe in origin and course, various cortical signs may occur and among these may be mentioned hemiplegias, affections of the optic fields, sensory loss of sense of position and allied phenomena, rigidity, catatonic-like musculature, and various mental disturbances. It must also be mentioned that true optic neuritis has been frequently described, making the diagnosis from abscess of the brain a difficult one. The reflexes are of all varieties and no index to the type of case.

The last class naturally follows on this description of which they are only a variety, and I refer now to the acute toxic psychoses following influenza.

As an instance, take the case of a woman who shows some slight difficulty walking, but in a few days becomes dull and apathetic, shows loss of sleep, or on the contrary becomes lethargic, memory is defective, and her powers of recognition of objects and people are gradually lost. Hallucinations develop, and she becomes more and more deeply psychically slowed, and gradually losing control of bowels and urine, she becomes a degenerative case and dies.

Compared with this case there are several types of acute amentia described, and the general picture is that of a toxic psychosis.

In these cases, whether neuritic, myelitic, encephalitic or psychical, the lumbar puncture shows a clear fluid, frequently under high pressure. The cell count varies from normal to fifteen or occasionally higher, the cells are of the lymphocyte type. Globulin is normal or slightly increased. In many cases there has been a small-celled infecting agent found and the question as in the pneumonias is: Is the condition due to the organism so recovered or to the influenzal germ itself?

This picture I have presented to you is one side of the infective conditions following influenza, but there is another though less interesting field, namely, the sub-acute infections following the epidemic.

Following the same method of discussion as with the acute conditions, one may first note that there has been a great increase in the cases of local neuritis, in patients who may have only had mild attacks of the influenza itself. In the first place there are the cases of facial paralysis occurring apart from any other symptom and a host of other forms of local neuritis. One of the most inter-

esting of these, of which I have seen several cases, has been one with the symptom of pain in the region of the larynx, accompanied by shooting pain into the ear, with spasm of the throat muscles and difficulty in swallowing, evidently a true tic douloureux of the vagus. Of the cases of brachial and lumbo-sacral neuritis there has been an increase, people being unusually open to disease since the epidemic, and parallel with the neuritis is the similar great increase in the cases of rheumatism of probably streptococcus origin.

The other great increase of sub-acute diseases beside neuritis has been in the neuroses and psychoses. Influenzal neurasthenia is so common that it assures one that the condition is of infectious origin, and not due to the psychical conditions associated with nursing and the great psychical strains that accompanied the sickness of others. The cases often came on after mild attacks of the infection and there has been a characteristic slowness about the rate of recovery and the exhaustion associated with the disease. Then the psychoses are certainly on the increase since the epidemic and in this regard one may simply raise the statement that under all conditions where there is a decrease in the resistance of the individual there will be a corresponding tendency in the individuals who are disposed to mental deterioration to show the degenerate tendency. With these brief facts I conclude this paper, repeating that associated with influenza an acute series of conditions may attack the nervous system, and that following the disease there may be a sufficient impetus to cause mental deterioration, or some neurosis, in those inclined to such conditions.

As an addenda I should like to add that in a recent number of the *British Medical Journal* a writer has stated that the germs of these influenza associated nervous diseases are all filter passing organisms, and that they are not identically the same for the varied locations.

DEATH RATE ABOVE AGE OF FORTY

BY W. H. HATTIE, M.D.

Provincial Health Officer, Halifax, Nova Scotia

IT is well known that there has been such substantial progress of late in lessening the prevalence of many diseases which formerly contributed largely to the mortality returns as to materially reduce the death rate of most civilized countries, and to considerably increase the average of longevity. According to American figures, the average age at death in 1910 was 38·7 years as contrasted with 35·2 years in 1900—an addition to the average age of 3·5 years or practically 10 per cent. The English Life Tables show the mean expectation of life at birth in the period 1849-53 was, for males, 48·56 years; for females, 49·45 years. In the period 1891-1900, this expectation had advanced to 52·87 years for males and 55·71 years for females, a gain of 4·31 years (equivalent to about 9 per cent.) for males and 6·26 years (equivalent to about 12·2-3 per cent.) for females. In the second of these periods, 55·2 per cent. of all children born should reach the age of 60, as contrasted with 48·5 per cent. of those born in the earlier period.

The significance of these figures should be apparent to everyone, and surely is sufficiently indicative of the value of well organized work on behalf of the public health. And yet an analysis of the mortality returns of the United States shows that the advance has been due almost wholly to the control of the communicable diseases and to the reduction of the death rate amongst infants and young children. There has been betterment of the death rate in the higher as well as in the lower age groups in England, but in the United States the experience has been otherwise, and the statistics of that country show that the tendency has been to a steady increase in the mortality rate of those who have passed the age of forty.

This observation has led me to make some study of our Nova Scotia returns, with the object of determining whether or no the experience of our province in this respect is similar to that of the

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United States, and while this study is admittedly superficial, I feel that it justifies me in placing before you certain findings, and in suggesting that a similar study in other Canadian provinces is deserving of consideration. Perhaps the comment which follows the statement of these findings may not be so readily justified.

In Nova Scotia, statistics are available for a period of ten years only, and it is manifestly impossible to draw any very definite conclusions from the experience of so short a term. We have, however, sufficient data to assure us that there is plenty of opportunity for bettering our health conditions generally, and such figures as are available, while they do not indicate a very serious trend towards such an alarming increase in the death rate at higher age periods as is evident in the United States, nevertheless afford us reason for giving some heed to the forty years plus problem, even though it may not, on the surface, appear to be a matter of such immediate concern as other problems which we are called upon to solve.

The death rate from all causes in Nova Scotia in 1917-18 was 17.9. So high a rate is in large part due to the Halifax disaster of December 6th, 1917, which caused the immediate death of upwards of sixteen hundred persons and was a factor in causing the death of many more. In addition, two colliery explosions (at New Waterford and Stellarton) resulted in one hundred and fifty-three fatalities. The normal death rate for the year might, by a rough computation—after allowing for the proportion of deaths from natural causes which might reasonably have been expected amongst those who perished in these disasters—be estimated at 14.7. This represents an increase over the death rate of 1908-9 (the first year for which we have statistics) of .3 per 1000. When, however, we compare the death rates in the age-above-forty group, we find (again endeavouring to estimate what our experience would have been had there been no explosions) that last year 53.4 per cent. of the deaths were in this group, as compared with 49.2 per cent. in our first statistical year.

Inasmuch as the rates fluctuate considerably from year to year, it is better to compare the figures of groups of years rather than of single years. We have but two quinquennial periods to compare. In the second of these, the deaths in the age-above-forty group numbered 53.0 per cent. of the total, while in the earlier period they numbered 51.3 per cent.

Such figures may be taken to indicate a tendency to conditions similar to those which obtain in the United States, although they

have not the same statistical value as an estimation based on a distribution of population according to age groups, which I am unable to make in the absence of corresponding census figures. It is not likely, however, that the variation in population at different ages would be so great as to materially affect these returns.

It is customary in dealing with such a subject as that which now concerns us to refer to the economic importance of conservation of health and life, and much stress has been laid upon the large economic saving which has been effected in various countries by the diminution of the death rate amongst infants and that from tuberculosis and other communicable diseases. This is, indeed, undoubtedly very great, and is alone sufficient warrant for the maintenance of vigorous public health activities. It is, however, possible that the economic value of a comparable reduction in mortality in the conditions which prevail especially in the mid-age period would be nearly if not fully as great—as that which attaches to the control of diseases which exact their heaviest toll amongst the young. For to the potential value of the young life there must be added the value of experience gained, and the cost at which it has been gained, in estimating the loss caused by death at a time when there should still be a reasonable expectation of many years of productiveness.

We have learned from Cazalius that “a man is as old as his arteries” and Metchnikoff told us, in substance, that the duration of a man’s life bears an inverse ratio to the length of his large intestine. A wicked epigrammist, who deserves to be unknown because of the part of his epigram which I dare not repeat, informs us that “a man is as old as he feels”. Out of these three modern texts one might evolve a treatise which would point the way by which much premature death might be avoided.

The reason for this faith is to be found in the death returns from the registration area of the United States. Here the death rate from organic disease of the heart, from Bright’s disease, and especially from diseases of the arteries, has been steadily increasing of late years. In the case of arterial diseases, the increase in ten years amounted to over 396 per cent. There has been a marked increase also in the death rate from cirrhosis of the liver and cerebral hæmorrhages (both degenerative diseases), from diabetes, and from cancer. It is to these conditions, especially, that the increased death rate at ages over forty is attributable. All of these diseases are more or less controllable, so that we have it in our power to at least limit their prevalence. And if we are to escape an experience

similar to that which is now causing our neighbours across the line no little uneasiness, we must give earnest heed to these things. The fact that these conditions have an almost invariably fatal ending gives to the death returns a value as a clue to their prevalence which does not obtain in the case of most diseases, for which we must collect morbidity as well as mortality statistics. The increased death rate may be regarded a clear index of increased prevalence of these conditions.

A study of the mortality tables shows that the dominant factor in the production of the increased forty-year-plus death-rate is disease originating in the arteries. From the evolutionary standpoint, the mammalian heart is but a special development of the thickened portions of arteries which are found to serve the purpose of a heart in some of the lowly forms of animal life. The kidney, too, is to be regarded as a compact grouping of blood vessels, cunningly arranged for purposes of filtration. Consequently heart, arteries and kidneys, constitute in essence but a single system of which one part cannot be deranged save at the ultimate expense of the other parts. Thus conceived, we must admit the preponderant part played by or through the arteries in the production of chronic, degenerative diseases. Irritation of the muscular coat of the arteries, produced by toxic substances added to or insufficiently removed from the blood-stream, may not only cause increase in the blood pressure, but play a part in producing alterations in the walls of the blood vessels, with the resulting enlargement of the heart and the chronic inflammatory and degenerative changes in the kidneys which mark men for early death.

If we eliminate the changes in this cardio-vasculo-renal system which appear to be an associated part of the general sclerosis which so usually comes on in well advanced life, we may broadly classify the causes of the primary changes in the arteries under three main heads: (1) Conditions of the environment which demand a persistent activity of the circulation; (2) interference with the normal chemical changes in the body concomitant with the retention of poisonous substances in the blood and (3) acute infections and localized septic conditions.

Under the first heading are to be grouped worry, excitement and overwork—and perhaps more especially mental overwork, for we must modify our former belief that sustained physical exertion alone is a competent factor in producing either thickening of the vessels or increase of blood pressure. These conditions have their most potent influence in the large centres of population. Abnormal

expenditure of nerve force, acting reflexly through the vaso-motor nerves, would appear to be effective in increasing the blood pressure. The artificial life of the city, demanding not only excessive activity in business affairs but affording so much opportunity for very strenuous diversions, is doubtless responsible for no small share of the vascular change which is of such serious import. The struggle for wealth and for social position commonly go hand in hand. As might naturally be expected, it is found that men suffer more than women from the resultant strain. The woman of fashion may be able, by the simple process of turning day into night, to recuperate fairly well from the exhaustion caused by the dinner party, the theatre, the late supper and the later dance, but the man to whom she has attached herself is less fortunate. In order to maintain his social position he must also maintain his business position, and he can do both only by depriving himself of the opportunity for sufficient recuperation. And then, though perhaps in a different place on the social scale, there is the devotee of the gaming table, the dance hall and the wine room, whose diversions expose him to a number of physiological risks, and whose merry life is in consequence very apt to be a short one. In this case, however, causes which are included under our second heading are also usually operative, and inasmuch as the proportion of those who live at the very high tension is, after all, comparatively small, this second group of causes is doubtless of relatively greater importance.

Amongst the causes which exert a malefic influence upon the chemical changes so necessary to proper functioning of the organs, we have to think of poisonous substances engendered within the body, either as the result of bacterial action or of disordered metabolism, and of those which are retained in excess because of imperfect elimination. Of bacterial products, we regard those of the *treponema pallidum* as being especially destructive, but several other germs, causative of infectious diseases, pus formation, etc., form toxic substances which are capable of doing much damage to the tissues of the circulatory system. The stress which our dental friends lay upon mouth infections is not to be forgotten in this connection. The prevention of bacterial diseases is therefore of very definite importance in preventing the onset of the degenerative changes which mean so much after age forty has been reached, and the reference here is not merely to infections acquired in adult life, but perhaps even more particularly to those of childhood.

The conditions which are consequent upon or attended by disturbances in metabolism are perhaps more difficult of control,

but they should not escape careful attention. Much at least may be done to limit their influence upon the arterial walls by proper medication and regimen. And careful attention to the functioning of skin, kidneys and bowels, will do a great deal towards securing the elimination of the waste products which have so pronounced an effect in inducing arterial changes. The free use of water, both externally and internally, should be encouraged, and the greatest care should be given to overcoming the habit of constipation, which is so common and often so resistant to treatment. The use of the extensively advertised nostrums for constipation should be discouraged, and every case of this disorder should be made the subject of careful study and specialized therapy.

Apart from these endogenous poisons, we must consider those which are introduced from without. In this connection we think first of the habit-forming drugs, and particularly of alcohol. An investigation recently carried on by the Actuarial Society of America and the Association of Life Insurance Medical Directors, embracing a study of the records of 2,000,000 insured persons and covering a period of twenty-five years, showed that the extra mortality amongst men who occasionally used alcohol to excess amounted to over fifty per cent. and caused a reduction of over four years in the average life of these men. The chairman of this investigation is authority for the statement that "persons who have always been total abstainers have a mortality during the working years of life of about half of that among those who use alcohol to the extent of at least two glasses of whiskey per day." More recently a large American Insurance Company has published an analysis of its records, which indicates that the mortality amongst total abstainers has been 16 per cent. less than the expected mortality, and amongst very abstemious persons, 3 per cent. less, while amongst very moderate drinkers it has been 11 per cent. greater, and amongst less moderate drinkers 29 per cent. greater than the expected mortality. Such observations as these give special point to a verse from Ecclesiastes: "Be not over much wicked, neither be thou foolish; why shouldest thou die before thy time?" It, at any rate, would seem to indicate that the disuse of alcohol as a beverage is most desirable in the interest of health and longevity, as well as in the interest of morality and social advance generally. Recent parliamentary enactments in respect to the sale of intoxicants will, after a few years, demonstrate whether this assumption is correct or not.

Other extraneous poisons are those which are associated with the prosecution of certain trades. Of these lead may be cited as

an example. Perhaps the effort now being made in many countries to safeguard the workers in trades which entail a certain hazard from the absorption of poisonous materials may, in comparison with other efforts on behalf of health, seem disproportionate, but it is effort in the right direction and has the endorsement of everyone who has at heart the physical welfare of his fellow man.

Then we must not forget the prejudicial effect of a badly constructed dietary, and even of excessive indulgence in a well balanced dietary. We know well that too free participation in a diet which abounds in protein results in the evolution of by-products which, when they gain entrance to the blood, act as irritants to the walls of the blood vessels, and so lead to vascular thickening or increased tension, or both. While this especially applies to meats, it is known that rich and highly seasoned foods in general, and the alkaloids of tea, coffee and cocoa, have also an injurious effect upon the vessel walls. Excessive use of these articles should therefore be avoided. But over-indulgence in any kind of food, especially if habitual, may have a direct mechanical influence in raising the blood pressure and thus in leading to arterial and consequential disorders. In the words of St. Paul, "Everyone that striveth for the mastery is temperate in all things."

All these factors, however, have been operative since the beginning of history, and cannot in themselves alone be responsible for the increased prevalence of degenerative conditions which has only been apparent within quite recent years. Moreover, as we have seen, there has been a decrease rather than an increase in the proportion of such conditions in England and Wales. It would seem, therefore, that some local condition, of comparatively recent origin or development, must be a determining factor in the American experience. Perhaps this is to be found in a failure of the people to adapt themselves to the changed mode of life which has been a sequence to the introduction of modern conveniences. The telephone, the electric tram, the motor car, the elevator, the free delivery of mails, the labour saving devices which have so largely reduced the physical effort formerly demanded in many trades, have all had a part in lessening muscular activity, while the accumulation of people in the towns has required a large percentage of those who had been accustomed to out-of-door occupations, demanding considerable muscular exertion, to take up sedentary in-door pursuits. This change came about comparatively slowly in England, allowing of some measure of adaptation, whereas in America it has been revolutionary rather than evolutionary. And then in England there is

more general participation in healthful sports and recreations than in America, where the disposition of the crowd is to sit on a bleacher and watch a professional do the sporting, rather than to take a personal part in the play. The human body does not adjust itself rapidly to marked variations in the demands made upon it, and unless nature is assisted when a speedy adjustment is demanded, we must expect disaster sooner or later. Everyone appreciates the benefit which accrues from intelligent exercise, and it would seem reasonable that the individual, whose changed conditions of life have deprived him of the opportunity for expending muscular energy at his work, should be enjoined to make good this loss by judicious indulgence in suitable sports or exercises.

There is much that is pertinent to the matter in hand which cannot be referred to at all in this communication, but a mention of the part played by cancer in contributing to the increased forty year plus death rate would seem to be really essential. There is fairly general agreement that cancer is becoming more common, and while our Nova Scotia statistics do not show that a tendency to its increase in our province is very marked, they at least show that it is sufficiently prevalent to demand our attention. More than 90 per cent. of deaths from cancer are in those of the forty year plus age period. We lack information which might be utilized in formulating preventive measures, but we do know that the hope of saving a life threatened by cancer lies in early diagnosis and prompt operation. The people should be instructed in the signs which usually proclaim the beginning of a cancerous growth, and should be urged to place themselves in the hands of a physician immediately on the appearance of a suspicious symptom.

Early diagnosis is important not alone in cancer, but in the case of the degenerative conditions also, as an essential to the early treatment necessary if a stop is to be put to their progress. For this reason many life insurance companies, for purely business reasons, now offer to their policy holders free medical examinations at frequent intervals. This has been found a profitable venture. An organization known as the Life Extension Institute was established in New York some years ago, and subsidiary to this a National Health Guard, the objects of which are "to upbuild American vitality, to prolong the healthful, useful years of life and make them more livable". This shows the trend of the day in reference to measures directed towards the conservation of human life and human usefulness. The possibilities for good which would associate with a general adoption of a plan which would provide for a methodi-

cal medical examination of our people, say once a year, are sufficiently obvious. In this way the first signs of degenerative processes could be detected, and the mode of life could be modified so as to check or limit their progress. One can not but feel that, in this way, a magnificent result might be achieved, and I should like to suggest that periodic examination of those on the "panels" should be made a feature of state health insurance schemes.

To-day the saving of human life has a public interest which it never had before. The demands upon men's energy and resourcefulness have been steadily growing more exacting, and it is becoming more and more difficult to maintain a place in the struggle for existence. The position which a nation is to achieve and maintain in the contest for supremacy must be determined by the efficiency of the people of which it is composed. Mental efficiency and physical efficiency depend upon good health more than upon anything else. We have emerged from a desperate war, which required for its successful prosecution an enormous expenditure of our best blood, as well as of our less valued treasure. We have emerged from it proudly triumphant, but at a terrible cost. Now we must enter upon a period of competition with other nations infinitely keener than any which has ever been experienced in the past. To maintain our supremacy, we must be a virile, vigorous people. Otherwise all the sacrifice of our heroic soldiers and sailors will have been in vain. Strong, capable, efficient men and women were needed for carrying on the war to a satisfactory issue. They are just as necessary now to carry on every interest in Canada and the Empire. It is the patriotic duty of every Briton not only to keep himself robust and vigorous, but to do all that lies in his power on behalf of the health of his neighbour. In this every one of us has a splendid opportunity to do valiant service for Canada and for the Empire to which we proudly owe our devoted allegiance.

Editorial

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS

THE eleventh Congress was held in Atlantic City on June 16th, 17th and 18th, 1919. In many ways this Congress holds a unique position in the minds of the present generation. Occurring as it did on the eve of the proclamation of peace—a peace which it is anticipated will end the terrible ravages of the past five years—there was much that had to deal with the lessons to be learned from the concentrated medical work of this period. In addition, there was a spirit of enthusiasm and hope that medical science would continue to work for humanity in the same co-operative manner as it had done in the recent four years.

The addresses in medicine and surgery strongly revealed the fact that medical science during the piping times of peace had fallen into a state of self satisfied complacency. It needed but the sharp emergency of this terrible struggle to reveal the chinks and gaps in the armour of medical and surgical therapeutics. The glamour of the pursuit of detail had gone far to obscure the urgent necessity of seeking fundamental facts in these matters. This was evident not only in so far as the scientific knowledge of disease was concerned, but also in regard to the fundamental principles of medical and surgical practice.

The lessons developing from the war threw in strong relief the tremendous importance of dealing with the human organism as a whole. New combinations of symptoms strongly indicated that disease of one organ is of necessity disease of the whole, as no one important function may be deranged without a reflex disturbance occurring elsewhere,

and so often does the final picture completely obscure the initial process.

Also in the realms of reparative surgery! The basic question of the healing of wounds far over-balanced the exhaustive details of operative technique so evident in former times. The great surgical question of the present war appeared to have been: How may the healing of wounds be hastened and the resulting disability reduced to a minimum. A completely satisfactory treatment of wound infections remains unsolved, although important points have received their proper recognition. The constant presence of more or less infection and its constant relationship to the healing process must be realized. It was also quite evident that the animal organism was considered a most efficient destroyer of deleterious micro-organisms, provided it were given a fair fighting chance through *the decks being cleared early for action* by the administration of the proper prophylactic sera and the removal of all vitally damaged tissue. Then it must have a fair field without meddlesome interference.

Wars in the past frequently have been mile stones in the advance of medical science as for example the achievements of Ambrose Paré and Wright. They were individuals. On the contrary, one of the outstanding impressions of the Congress was the strong indication that whole hearted co-operation was the spirit of the times—the combined and co-ordinated work of many for the good of all. Let it be hoped that this lesson may not be forgotten, in order that medical science in all its phases may continue to advance on one broad front.

THE PRESIDENTIAL ADDRESS

THE address of the President was noteworthy in that he departed from the usual custom of outlining the year's progress of the Association and resisted the temptation of putting his personal views on the great subjects of the day

before the meeting. He confined himself entirely to welcoming the members to his native city, and to outlining the history of the origin of the Association, and formulating a scheme for consolidating the good feeling between the French and English speaking people, which has been so marked since the beginning of the war.

The historical references to the early days of the Association and to those who were instrumental in organizing it were not only very interesting but were exceedingly instructive especially to the younger members. So many advances have been made in medicine and surgery in the last generation that one is liable to belittle the work of those who laboured before that time and made these advances possible.

No one can disapprove of the idea of making the British and French schools of post-graduate work better known in this country.

It does not seem, though, that much progress can be made in post-graduate work until definite organization work is done in providing the instruction and collecting the clinical material in such a way that it is readily accessible to the student. It is still too early to tell how successful the recent attempts to do this have been.

The idea of our own French and English universities granting free courses to each other's graduates is worthy of serious consideration, and the good feeling, which has proposed it, is to be much commended. We hope that the idea will be followed up to a conclusion by the institutions concerned.

THE ADDRESS IN SURGERY

ONE of the features of the Quebec meeting was the address by Dr. Jasper Halpenny of Winnipeg on the association of the hospital with surgery. The careful blending together of all the information available on this subject, makes the address a most valuable one.

The necessity of the adequate training of the surgeon before he attempts major operations would seem to be too obvious to the profession and even to the public to require much comment. This is not the case, however, and especially in the western portions of Canada, where the hospitals are open to all physicians, who have a license to practise. The main difficulty is where to draw the line as to what surgery the general practitioner is qualified to do. Unquestionably the latter insists that he is capable of doing more than he is generally fitted for, while on the other hand the surgeon will frequently allow him nothing more difficult to do than a vaccination. If the surgeon be protected by insisting that only men with long years of surgical instruction behind them be allowed to operate, will he concede that, having spent so much time at this special work, he has disqualified himself for general practice?

It would seem that only by the surgeons retiring from the general practitioner's field can the profession support a move to restrict all surgery to those who have had years of special training in this work. This would undoubtedly be a move to the advantage of the general public and consequently a benefit to the profession. In this way the duties of both would be better accomplished.

The duties of the Board of Trustees and the Medical Superintendent were well brought out in the address. The importance of the medical superintendent is being better appreciated each year and the better hospitals realize the necessity of adequate remuneration for this position if they are to get this work properly done.

The necessity for a hospital to have teaching, in order to maintain its efficiency, is being gradually brought before the public. The profession has long been agreed on this subject and none are more emphatic on this point than those engaged in teaching. Having observant students continually about, keeps all the members of the staff from getting lax. In this connection internes are included as students.

The duties of the hospital to the internes are seldom lived up to. Here an alert superintendent is necessary to keep the Board of Management informed of what members of the staff are lax in this way. It is only by giving the internes a quid pro quo for their years of service that a hospital can be sure of getting the best men for this necessary work. Otherwise the hospitals, who realize this duty, will soon secure the desirable men to the detriment of the other institutions.

The need for facilities for research in hospitals is mentioned. Unfortunately although frequently alluded to in presidential addresses it is rarely acted on by our Canadian hospitals. It is here that our better hospitals are weak. This is so much the case that they are losing altogether some of the better young men to the profession in Canada.

CINEMATIC AMPUTATIONS

THE work of Professor Putti of Bologna always makes fascinating reading so we take pleasure in drawing attention to a report on this subject appearing in another part of this issue. This report has been submitted to Major-General Fotheringham as a preliminary to having these methods extensively undertaken in Canada.

No part of surgery has been so much improved by the experiences of the war as that dealing with amputations. The advances made in this branch are nothing short of marvellous, and surgeons five years ago would deem the results attained to-day as beyond the realms of possibility. The greatest advances in this work have been made by the French and Italian surgeons and to Professor Putti must be given the highest credit of all.

The report by Colonel Gunn is too brief to give an adequate description of the life that Professor Putti is able to transmit to artificial limbs by his cinematic operations. He has been able to accomplish this, too, for the vast majority

of his cases and not for a few demonstrators such as we see advertising the different make of limbs. It is necessary to see his cases en bloc to be able to fully realize how he converts an otherwise helpless man into a useful and contented member of society. The application of these methods to our Canadian soldiers will be welcomed.

THE International Red Cross Committee at Geneva has called a convention of the Red Cross organizations of the world to be held at Geneva thirty days after the declaration of peace. This call was issued at the request of the Red Cross Societies of Great Britain, France, the United States, Italy and Japan, whose representatives have constituted themselves as a "Committee of Red Cross Societies" to formulate and propose a world extension programme of Red Cross activities in the interests of humanity. The conception involves not merely effort to relieve suffering humanity, but to prevent suffering—not alone the suffering of one people, but an attempt to arouse all the peoples to a sense of their responsibility for the welfare of each other throughout the entire world. The inception is both ideal and practical: First that its supreme aim is humanitarian; and second in that it seeks means and measures to meet the tragic crises which are daily recurrent in the lives of all mankind. The operation of such a plan will be an important contribution towards the success of the League of Nations and the plan should be viewed as a vital factor in the larger undertaking.

A RESOLUTION was recently presented to the United Health Congress placing it on record as opposed to the "existing monopoly in arsenical preparations" for the treatment of communicable diseases, and in favour of encouraging widespread distribution at as low a cost as possible. The resolution also favoured their manufacture by the provincial governments, and the admission of all reliable preparations.

DR. CHARLES H. HERTY, former president of the American Chemical Society, outlined a plan for a \$10,000,000 foundation for drug research in an address delivered before the New York Academy of Sciences. He suggested the possibility of utilizing one of the great breweries soon to be abandoned, which thus he said would be converted into an institution where ways could be found for reducing to a minimum the physical ills of the race. The aims of the society's foundation would be twofold—the acquirement of knowledge of the effects of drugs on the human body, and the fundamental reasons thereof, and independence of the rest of the world, especially Germany, in synthetic medicaments. Dr. Herty affirmed “that statistics just compiled from Government records show that in the fiscal year preceding the war we imported one hundred and eighty-five synthetic medicinals at a valuation of \$1,033,000. Ninety-five per cent. of this came from German factories.”

He pointed out the need of a great institute in the country where the ablest research workers among the chemists could study life problems and gain true insight of the fundamental reasons for the action of medicine upon the body—an institution where, through the creation of fellowships, manufacturers can submit specific problems for investigation and solution under the most favourable conditions of expert work and abundant equipment. Measures for such an establishment have been rapidly advanced, and a nation wide endorsement of the plan has been received from chemists, pharmacologists and manufacturers.

Approval of the principle and leading features of the bill to amend the patent medicine act was given at Ottawa before the special Commission of the Commons. The act provides that in future every patent or proprietary measure must obtain annual license, and must be known by a number. The bill also provides for the appointment of an Advisory

Board which will, among other things, consider means of making all medicines having more than two and a half per cent. of alcoholic content unsuitable beverages.

THE medical superintendents of all the Ontario hospitals have been called together in conference by the Provincial Secretary to discuss plans and suggestions connected with the efficiency and standing of the medical institutions of the Province. The intention is to rebuild and strengthen the staffs of medical assistants and nurses at the various hospitals, to cope with the ever increasing need for such work, and develop at each institution the medical and scientific side of hospital life, particularly in research work, thus placing these institutions in the front rank of medical work as it is understood to-day. The aim is to establish a medical centre which can be regarded from all sides, and particularly by the medical fraternity, as one place in the district where the highest attention will be paid to scientific and professional advancement.

SIR ARTHUR NEWSHOLME, K.C.B., M.D., in the course of an address on "Some Problems of Preventive Medicine of the Immediate Future", delivered at a special general meeting of the Academy of Medicine in Toronto, dealt with the advanced steps taken along public health lines by the government of Great Britain. He took the stand that "the treatment should be a public expense, as it is as much a community matter as primary education, free libraries, etc." He strongly advocated the provision of proper facilities for the care of expectant mothers and their babies as a factor necessary to the nation's well being.

Another fact brought out by the war, Sir Arthur stated, is that British scientists are at least the equal of those of Germany. He urged a widespread propaganda aimed at the prevention and proper treatment of tuberculosis.

In three groups of diseases, respiratory, tuberculosis and venereal, he declared comparatively little progress has been made to successfully combat them. Under the first class he mentioned influenza, on which, he said, medical men must admit that they are still painfully ignorant in methods of prevention. He commended the Child Welfare work carried on in the City of Toronto, and suggested methods by which voluntary organizations can assist, in the amplification of the work of the authorities, or before provision is made by the States as a result of municipal efforts.

DR. JOHN BEATTIE CROZIER is a Canadian who has won his way by unaided merit to the highest rank of Britain's intellectual aristocracy. On his seventieth birthday recently he received a letter expressing warm appreciation of his "eminent services to British scholarship and speculation", and his "unselfish endeavours for human welfare". The letter contained the signatures of leading public men, writers, physicians, scientists, editors, historians, social workers and political economists. Few men have had so significant a tribute paid them in their lifetime as this spontaneous testimonial by Dr. Crozier's contemporaries.

At the annual dinner of the Canadian Medical Association in Quebec, Dr. Grondin, president-elect of the Association, announced that by special arrangement with Mgr. Francois Pelletier, rector of Laval University, that institution would be pleased to receive, free of charge all young doctors, graduates of other Canadian universities, who wish to follow the courses in medicine at Laval for one year. In return, he said, they would ask English universities in the other provinces to extend the same privilege to French Canadian doctors graduating from Laval.

The Association

GENERAL REPORT OF PROCEEDINGS OF QUEBEC MEETING

THE fiftieth annual meeting of the Association was held in the old city of Quebec June 25th, 26th, and 27th. While a comparatively small meeting, it was nevertheless a success from many points of view. It seemed fitting that this meeting should be held in the city in which fifty-two years ago the Canadian Medical Association saw its birth. It is probably not known to the present members of the Association that the great majority of those who attended the first meeting in 1867 were French-Canadian physicians. It is worthy of note that of the eighty new members registered at the recent meeting, sixty-three are of that race. That such a number of French speaking physicians should attend a meeting conducted practically altogether in the English language is certainly praiseworthy. These gentlemen were able not only to understand and appreciate the papers given in English, but were also able to take an intelligent part in the discussions. We hope that we may count on their continued support, and in fact have received the distinct assurance of President Grondin that the interest shown in the Association at Quebec will be continued.

The total number attending the meeting was 197, the majority of whom were from the Province of Quebec. The attendance from Ontario was disappointing. The other provinces too were represented by small numbers, but this was to be expected, especially in the case of the western provinces, owing to the difficulty of transportation and to the fact that Winnipeg and the West were barely recovering from the effect of the prolonged strike which involved certain of the transportation companies.

The sections were fairly well attended. Further reference will be made to their activities in the next number of the JOURNAL.

Many important resolutions were considered by the Executive Council and forwarded to the general meetings for discussion. These also will be published in near issues. We would like, however, to call attention here to the recommendation that in future

all resolutions to be submitted at the meetings of the Association should be typewritten in duplicate and placed in the hands of the Secretary in time for presentation at the first meeting of the Executive Council. This meeting is, by resolution of the Association, to be held in Vancouver the day before the official opening of the meeting. This will afford the Council an opportunity to carefully consider all resolutions before they are submitted to the general Association.

Much praise is due to the President, Dr. Grondin, to his very able Secretary Dr. Vallée, and to the Chairmen and members of the various committees who were responsible for the excellent arrangements for the meeting. The Association is much indebted to them for the splendid reception accorded to those who were fortunate enough to attend.

The meeting next year will be held in Vancouver under the Presidency of Dr. R. E. McKechnie at a time to be decided upon by the Committee of Arrangements. It is hoped, however, that a date will be chosen which will permit our members to attend the International Congress to be held in Brussels in the month of August.

AUDITORS' STATEMENT

Chairman of the Finance Committee,
Canadian Medical Association,
Montreal.

Dear Sir:—

We have the honour to report that the regular audit of the books and accounts of the Association has been completed for the year ending December 31st, 1918.

The attached statement shows cash receipts and disbursements for the period.

A balance of \$397.04 was brought forward at the beginning of the year and this has been increased to \$474.65, which amount is carried forward to 1919.

We found the books in very good order, receipts and vouchers being on hand for cash disbursements, and all our requirements as auditors have been satisfied.

Yours faithfully,

E. B. SAVAGE & CO.

Montreal, June 10th, 1919.

RECEIPTS AND DISBURSEMENTS, YEAR ENDING DECEMBER 31st, 1918

<i>Receipts</i>	
Balance in bank, January 1st, 1918.....	\$397 04
Annual Fees, paid direct.....	\$2,331 34
" " paid by draft.....	3,532 90
	<hr/>
Special Illustration fund.....	5,864 24
Reprints.....	123 30
Sundries.....	535 32
	26 31
	<hr/>
	\$6,946 21

<i>Disbursements</i>	
Editorial Secretary's Salary.....	\$427 50
Refunds Paid Provincial Societies:	
Alberta.....	\$60 50
British Columbia.....	24 50
Manitoba.....	42 50
New Brunswick.....	33 00
Nova Scotia.....	27 50
Saskatchewan.....	19 00
	<hr/>
	207 00
JOURNAL Account:	
Renewals and new subscriptions.....	\$2,739 40
Illustrations and sundries.....	160 83
	<hr/>
	2,900 23
Reprints.....	680 81
Clippings.....	84 00
Montreal Medical Journal Co.	
Payments to stockholders—\$5,000.00 at 6 per cent....	300 00
General Expenses:	
Auditors' fees.....	20 00
Hamilton meeting, shares of expenses.....	225 00
Postage.....	220 00
Salary, Secretary's Assistant.....	1,018 67
Stationery and printing.....	116 95
Sundries, telephones, etc.....	88 30
Travelling expenses.....	197 10
Typewriter desk.....	46 00
	<hr/>
	1,932 02
Balance in bank, December 31st, 1918.....	474 65
	<hr/>
	\$6,946 21

Certified correct,

E. B. SAVAGE & Co.,
Chartered Accountants.

Montreal, June 10th, 1919.

REPORT OF MEETING OF THE AMERICAN AND CANADIAN SECTION OF THE INTERNATIONAL ASSOCIATION OF MEDICAL MUSEUMS

THE twelfth annual meeting of the American and Canadian Section of the International Association of Medical Museums was held at Atlantic City on Saturday, June 14th, last. Professor Oskar Klotz, president of the Section, was in the chair. Thirteen new members were elected to membership and the following officers for the ensuing year: President, O. Klotz, Pittsburgh, Pa.; first vice-president, W. M. L. Coplin, Philadelphia, Pa.; second vice-president, H. E. Robertson, Minneapolis, Minn.; third vice-president, H. T. Karsner, Cleveland, Ohio; councillors: A. S. Warthin, Ann Arbor, Mich.; M. C. Winternitz, New Haven, Conn.; R. A. Lambert, New York; R. M. Pearce, Philadelphia, Pa.; C. F. Silvestre, Washington, D.C.; J. Ewing, New York; W. G. MacCallum, Baltimore, Md.; secretary-treasurer, Maude E. Abbott, Montreal; assistant secretaries, Louis Gross and Eleanor Shanly, Montreal.

The chairman in his opening remarks dwelt upon the need of active co-operation of the members of the Association at this time of reconstruction when the active interest of all must be elicited to meet the difficulties that were being encountered in the accomplishment of museum technique, both in the obtaining of glass ware for museum purposes and in other ways. The value of museum teaching and the need of closer association between the pathological and clinical teaching of the schools, and the museum proper was emphasized and the importance of a closer affiliation with the Association of pathologists and bacteriologists and this society of expert museum workers.

A report was presented from the committee on the organization of an American made supply of square glass museum jars. The difficulties in the way of the accomplishment of this manufacture were chiefly the expense of the metal moulds for the various sizes of jars, one of which alone cost \$700.00. As the individual moulds were permanent, the high cost of manufacturing was an initial one and would soon decrease, so that if sufficient orders could be obtained to induce the manufacturer to support this initial outlay, the jars would be in time supplied here practically as cheaply as they had been in the past from Germany. The matter had been

taken up by the Scientific Materials Company of Pittsburgh, who had already several moulds for different sizes, and who supply a very good jar with a special glass cover with a bar for the suspension of the specimen. Sample jars were sent by this firm to any one desiring them, and orders would be filled after September 1st, next.

A lively discussion followed upon the importance of developing the American manufacture of museum glass ware, and the feeling was strongly expressed that purchase from the Central Powers should be discouraged and the home manufacture be supported in every possible way. The following resolution was passed:

"Resolved that it is the sense of this Association that we should not purchase scientific supplies obtained from the Central Powers or their agents; and that every effort be made to further the development of the American manufacture of all scientific supplies."

The following programme was presented:

Symposium on War Museums:

"On the selection, clinical application and value of war material for army medical teaching purposes," by H. T. Karsner, Cleveland, Ohio.

"Overcoming difficulties encountered in the collection, storage, and shipping of specimens in France," by H. E. Robertson, Minneapolis, Minn.

"On the handling of pathological material at the Army Medical Museum," by James Ewing, New York.

"On the handling of pathological material received for the Canadian National War Museum," by Maude E. Abbott, Montreal, presented by Major Fraser B. Gurd.

"Demonstration of Canadian War Specimens," by Major Fraser B. Gurd.

Papers and Demonstrations.

"Demonstration of gross and microscopic lesions in the respiratory tract, (1) Associated with influenza, and (2) Initiated by irritating gases," by C. A. McKinlay and F. P. McNamara, New Haven, Conn.

"A method of preparing lungs for the museum, with lantern slides illustrating influenza lesions," by James Ewing, New York.

"Typewriting labels on museum jars," by Captain C. F. Silvester, Washington, D.C.

"Demonstration exhibit on the comparative anatomy and

development of the vertebrate heart," by Maude E. Abbott and Eleanor Shanly, Montreal.

"Motion picture films on cell mitosis," by W. O. Owen, Washington, D.C.

Extremely interesting exhibits were shown on "Experimental emphysema," by Dr. Sarah R. Kelman, Iowa City; "Reconstruction of the vascular tree of organs by injection," by Dr. L. Gross, Montreal; and "A series of vertebrate hearts from (a) crocodile, (b) turtle, (c) elasmobranch, and (d) teleost fishes," by E. L. Judah, Esq., Montreal.

Obituary

DR. WILLIAM NICHOL

DR. WILLIAM NICHOL, the oldest and one of the most widely known practitioners in Brantford, early in June died at his home in that city, after a long illness. He contracted influenza last October. He was in his eighty-second year. He graduated in medicine from Chicago University and immediately commenced the practise of his profession in Brantford where he spent a long and useful life and where for many years his name had become a household word.

He was one of those far sighted Canadians who first realized the supreme importance of assimilating foreign settlers into the national life. He engaged in this work in his own city for many years teaching in the school for foreigners. The stamp of his character and life has been left upon many national institutions as well as their branches in Brantford. He was one of the group of four forceful men who took a prominent part in the early organization of the Y.M.C.A. in Canada. He was a Liberal in politics and a Presbyterian in religion. A widow and four children survive him.

J. P. SCOTT, HON. CAPTAIN AND Q.M., C.A.M.C.

HON. CAPTAIN AND QUARTERMASTER JAMES PETER SCOTT, C.A.M.C., died in the Canadian Red Cross Officers' Hospital, London, England, on May 16th, 1919, of malignant disease of the stomach, at the early age of thirty-three.

A native of Scotland, Captain Scott was a barrister by profession, and at the outbreak of war was practising in Winnipeg. Proceeding overseas as a private in the 16th Battalion, he was severely wounded at Ypres in April, 1915. He transferred to the C.A.M.C. four months later, his wound having left him unfit for further service in the infantry.

His administrative abilities secured him rapid promotion, and he was attached to the office of the A.D.M.S. Canadians, London Area, from its inception, first as superintending clerk, and after receiving his commission in 1917, as officer in charge of details.

He is survived by a widow in England.

DR. J. A. McKENNA

DR. J. A. McKENNA, for many years so closely associated with the Indian interests in the North West Territories, died recently in Victoria, British Columbia, where he resided. He was born at Charlottetown, Prince Edward Island, in 1862. Dr. McKenna embraced a political career when he entered the Dominion public service in 1886 and was, for a time, private secretary to Sir John A. Macdonald. In 1897 he effected, in conjunction with T. G. Rothwell, a settlement with the government of British Columbia for the administration of Railway Belt lands. Two years later he concluded a treaty with the Indians of the Athabaska and Peace River districts, under which the Indians surrendered their lands to the crown; and in 1906, he concluded a similar treaty with the Indians in the Churchill River locality. He was assistant Indian commissioner for a time, and later inspector of Indian Catholic schools in the prairie provinces and North West Territories. He was a member of the joint provincial and Dominion commission which a few years ago investigated the Indian question in British Columbia, and since the completion of that work, had been living in Victoria. He leaves a widow and seven children.

THE death occurred at Olds, Alberta, of Dr. Thomas Gordon Playford, following an acute attack of diabetes. He returned to his home on Winnipeg in the spring, from service overseas with the Imperial army where he had gained his captaincy, and a Military Cross and bar. In April he went west, preparatory to opening a practice but succumbed after a very brief illness. His future was full of promise and he was only in his twenty-third year. His

death will be felt as a great loss, not only to his family, but by all with whom he came in contact.

DR. GEORGE OSBORNE HUGHES, M.D., Virginia, U.S.A., and M.R.C.S., L.R.C.P., London, England, died recently in Manitoba at the age of forty-nine. He had been ill for four weeks with typhoid fever.

DR. JAMES SALMON, who was in his ninety-seventh year, died on June 19th, after a brief illness at his home in Simcoe. Dr. Salmon graduated in medicine at twenty-three years of age and practised with success in what was then a densely wooded country for a long period until his retirement from active practice. He is survived by his widow to whom he was married more than sixty years ago.

THE death occurred on June 10th of William Forest, B.A., M.D., who for the past twenty-five years has resided in Toronto. He was born in Scotland but came to Canada at the age of fifteen. He graduated from the University of Toronto in both arts and medicine obtaining the gold medal in medicine and the silver one in arts. After graduation he went to Bradford where he practised medicine for some time but eventually he embraced the profession of teaching and became principal of the Bradford High School.

DR. C. W. TRICK died at his residence in North Winnipeg, Manitoba, on June 3rd, after a brief illness. He had but recently recovered from an attack of pneumonia, but on May 20th was stricken with apoplexy, and gradually sank. He was born in Brock township, Ontario, in 1875, but on his family moving to Winnipeg he pursued his studies there, graduating in medicine from the University of Manitoba in 1899. Soon afterwards he established himself in practice in North Winnipeg, where he remained permanently.

Miscellany

News

THE WESTERN PROVINCES

IMPORTANT legislation, the most advanced along social service lines, has been passed by the Manitoba Legislature, as embodied in the report of the committee to the Manitoba Public Welfare Commission. This announcement was made by Dr. C. K. Clarke, who presided at the annual meeting of the Canadian National Committee for Mental Hygiene. He referred to the progressive step the association had made and stated that a similar movement was planned by British Columbia.

Dr. Hincks gave some startling statistics from Manitoba. In the jails 60 per cent. of the inmates were feeble-minded. A number of these quite out of proportion to the percentage in the general population, were foreigners, an indication of the need of immigration restrictions. It is estimated that every incurable patient detained in the Provincial Hospital for the Insane costs the Manitoba government from \$5,000 to \$7,000, hence, to quote from the report, "It is not a difficult problem to calculate the saving to be effected by dealing as intelligently with insanity as we do with small pox or other preventable diseases.

THE establishment of the Dauphin Medical Clinic marks an important advance in the profession in that district to render more efficient service to the general public, and it may rightly be described as unique, being the only clinic in Manitoba in which all the medical men are united.

THE Brandon General Hospital Training School, Graduating Class, 1919, broke all records in the recent examinations. The lowest marks obtained in Obstetrics were ninety per cent. The members of the class also did splendid work in surgery, no nurse receiving less than eighty-five per cent. The examiners stated that the papers were of a uniformly high order. Twelve nurses graduated in June.

EDMONTON has been chosen as the city for the 1920 convention of the Canadian Public Health Association and the Ontario Health Officers' Association. It will be the eighth annual congress. Dr. Heber C. Jamieson of Edmonton, speaking on child welfare work, said that Alberta had considerably more trouble with the 33.6 per cent. of foreign born children than with the remaining 66.4 per cent. of British born, owing to the foreigners of the province holding to their traditions and refusing to adopt up to date methods in vogue in Canada. The resolution favouring the manufacture of the drug "salvarsan" by provincial governments was carried unanimously.

A PUBLIC health programme of considerable extent is being planned in Alberta. It is in some respects of a radical nature and is being taken up by the department of public health under the Hon. A. G. MacKay, minister, and Dr. T. J. Norman, deputy minister. The provincial board of health has now power to issue any order to make any regulation that might be found necessary in any municipality or any portion of the province for the "prevention, mitigation or suppression of disease. In certain parts of the province the local boards had been tardy in acting, and this fact was in large part responsible for the amendment. Under the present system the provincial board, as in the case of a small-pox outbreak, can deal at once with the territory affected, whether it covers one municipality or several. It can deal with the vaccination of all people in a district, regardless of municipal boundaries. In unorganized units the provincial board is given full power to act. Heretofore municipal councils were obliged to furnish medical and nursing aid only to the indigent poor. Under the present regulation a municipal district may pay a doctor or a nurse, or both, a regular salary to attend, free of charge, any and all residents who may need their services. Many sections of the act deal with sanitation. There are five sanitary inspectors, all returned men, now on duty throughout the province, with instructions to prosecute property owners and occupants of unsanitary premises and in obvious and flagrant cases the member of the local board of health who have failed to do their duty. Under the venereal diseases act the department has sent out bulletins, and an up-to-date compendium of instructions to all medical men, hospitals, and similar institutions, and its agents are reaching out to see that the provisions of the act are being made applicable when necessary. The department, in addition to this, is making

a survey of the province to ascertain what points are not within striking distance of a doctor or a nurse and to these points will be sent nurses specially trained in obstetrics and authorized by the legislature last session to practice midwifery and to charge such fees as the provincial board may consider reasonable.

CALGARY has planned a hospital scheme to co-operate with the militia and the department of soldiers' civil re-establishment in giving them the full use of their equipment, and doing it without putting either the city or the government to too much expense. The militia department was administering the convalescent homes and the soldiers' civil re-establishment assumes no authority over men until they are discharged; consequently the cases looked after by this department are less than those looked after by the militia, and will continue to be so until the men are discharged and the positions are reversed. The hospital building at present under construction in Calgary is to cost somewhere in the neighbourhood of \$20,000. The city will build another extension if the government will co-operate, and are prepared to go to the extent of \$60,000. Though a modern hospital is needed one of marble construction is unnecessary. Under discussion it transpired that a high-priced building in a few years with a change of methods becomes useless. The cottage type is superseding the more permanent type it being found that the treatment of tubercular cases have been revolutionized by the hutment system. The patients have infinitely greater comfort, splendid sanitary condition and plenty of light, they can also be classified and segregated if necessary. Should the government co-operate with the city, Calgary will have its hospital benefits centralized.

A MOVEMENT is on foot to hold a convention of directors of hospitals in Saskatchewan next fall for the purpose of reviving the Saskatchewan Hospital Association, which was formed some time ago, but which had only one meeting. At the regular meeting of the board of governors of the Regina general hospital recently, the matter was brought before that body in a letter from the secretary of the Weyburn Hospital, asking the chairman of the board, as convener of the association, to call another meeting. The view was almost unanimously expressed that the association should be kept alive and authority was given to look up records of the personnel of the directorate of the association and any other records that may be in existence.

THE annual convention of the Saskatchewan Medical Society was arranged for July 15th to the 17th, and was to be held in Regina this year. It is estimated that between two hundred and three hundred delegates from all parts of the province will attend, and an extensive invitation has been given to all members of the profession.

A FAVOURABLE consideration has been given lately to the new project of erecting a \$250,000 Union Hospital in the city of Moose Jaw. Representatives of the surrounding municipalities of Redburn, Baidon, Hillsboro, Roger, Pense, Eyebrow, view the scheme with approval and request that council of each municipality mentioned appoint, at the earliest possible moment, a representative as a member of the hospital committee, provided for in part one of the Union Hospital act. When all the representatives are appointed a meeting is to be called for the purpose of organization.

At the closing session of the meeting of the Canadian Medical Association, held recently in Quebec, the city of Vancouver was selected as the place for the next annual convention, Dr. R. E. McKechnie being chosen as President-elect.

Dr. H. E. Young, secretary of the provincial health department, was elected president of the Canadian Health Association on his recent visit to Toronto to attend that body's annual convention. Before returning to the Coast, Dr. Young went to Ottawa to attend the social hygiene conference called by acting-Premier White. Dr. Young does not expect the federal health department will interfere with provincial jurisdiction in any way, but will confine its efforts to combatting venereal diseases, tuberculosis, and other evils which are nation wide. Smallpox and other epidemics will continue to be dealt with provincially he stated.

MEDICAL COLLEGES

THE results of the examination of the Ontario College of Physicians and Surgeons have been announced and eleven graduates of the Western University Medical School are included in the list of successful candidates. The record for the Western School this year is considered very good.

At the eighth annual convocation of the University of Saskatchewan, Saskatoon, nine students received certificates in pharm-

acy. The prize in Materia Medica was awarded to A. Logan; in Pharmacy, to G. L. Baal; in Chemistry to C. B. Staples.

THE following degrees and prizes in Medicine have been awarded by the Senate of Queen's University: Degrees of M.D., C.M.: W. E. Berry, M.B., Dundas; W. S. T. Ronnell, Kingston; G. S. Cronk, M.B., Parham; J. B. Gallighan, M.B., Eganville. This makes a total of sixty-seven M.D., C.M. degrees for the past session of the Medical College, sixty-three students having graduated last January as the result of a special war session during the winter. The prize winners were: Faculty prizes, first year: J. H. Orr, Kingston, and A. R. Richards (equal). Fourth year: G. H. Ettinger, B.A., Kingston. The Cook Scholarship: C. M. Emon, Ottawa. The New York Alumni Association scholarship: A. Clifford Baden, Kingston. The N. F. Depuis scholarship: J. E. L. Imbleu, Renfrew. The Dean scholarship, C. M. Carruthers, Sarnia.

ON June 23rd, McGill University held its annual convocation for conferring degrees in medicine. Sixty-two men received the degrees of M.D., C.M.; three men received B.A. degrees in the double course of art and medicine, and three received B.Sc. degrees in the double course of art and medicine. The prize winners were: Holmes Gold Medal, P. M. H. Savory. Final Prize, P. L. Backus. Wood Gold Medal, W. W. Read.

ARMY MEDICAL SERVICES

COLONEL PERRY G. GOLDSMITH has been appointed a commander of the Order of the British Empire. He went overseas with the first Canadian contingent and later was transferred to France as a specialist in a British hospital. In August, 1917, he was mentioned in despatches and, was later appointed president of the Standing Medical Board on England.

LIEUTENANT-COLONEL E. COOPER COLE has been made an Officer of the Order of the British Empire. He went overseas with the Canadian Army Medical Corps in 1914. He was wounded in France and invalided home in 1916. Upon recovery he was given a position on the London Medical Board, subsequently being transferred to Bramshott Hospital. He is now O.C. at the Whitby Hospital.

THE Royal Red Cross has been awarded to Miss Isabel Thomas, V.A.D. graduate of Toronto University, 1912, for work in England

and France during the past three years. She was mentioned in despatches by Sir Douglas Haig.

DR. E. T. ADAMS, of Toronto, who served in France with the Sanitary Corps of the Canadian Army for more than two years, has been appointed Medical Officer of Health for Windsor district, a position recently created by special act of the Legislature.

THE Military Medal has been awarded to G. Grigg, C.A.M.C.

WARM appreciation is expressed in England for the presentation of two Canadian Red Cross hospitals at Bushey and Taplow. The gift happily coincides with the appointment of the first British Minister of Health. Bushey Hospital was presented to the King, who intends to hand it over to the London County Council, which as administrative authority of Greater London is responsible for an area of one hundred and seventeen square miles. The intention is to devote the hospital to the use of London's children to the number of six hundred thousands on the following plan: Out of every hundred the health authorities will select the child who is the worst nourished and most debilitated. Each of these will be sent to Bushey for a month. A medical staff and nurses will be maintained, likewise a staff of school teachers, so that the children's studies need not be interrupted. Whenever the weather permits lessons will be conducted out of doors. It is estimated that the scheme will embrace, during the course of the year, upwards of three thousand poor London children.

Appointments:—Captain Gilbert Harry Lansdown, is posted for duty under the A.D.M.S., military district No. 10.

Acting Major Frederick William Lees, M.C., is posted for duty under the A.D.M.S., military district No. 11.

Major Howard Brown Jeffs is appointed A.D.M.S., Embarkation, vice Lieutenant-Colonel R. W. Ker.

Captain Alexander John Shilstra, is posted for duty under the A.D.M.S., military district No. 10.

Major Russell Butler Robertson, is posted for duty under the A.D.M.S., military district No. 11.

Captain Robert Dewar MacKenzie, M.C., is posted for duty under the A.D.M.S., military district No. 2.

Captain Joseph Townsend Stirling, is posted for duty under the A.D.M.S., military district No. 10.

Major Albert Collins, is posted for duty under the A.D.M.S., military district No. 2.

Lieutenant Irwin McMurchie Lloyd, is posted for duty under the A.D.M.S., military district No. 2.

Lieutenant-Colonel Samuel Harvey McCoy, is posted for duty in the Directorate of the D.G.M.S., Militia Headquarters, Ottawa.

Lieutenant-Colonel George Willard Treleaven, is posted for duty under the A.D.M.S., military district No. 10.

Captain William Frederick Dey, is posted for duty under the A.D.M.S., military district No. 10.

Captain Albert Ernest Walkey, is posted for duty under the A.D.M.S., military district No. 2.

Major Stanley Gordon Chown, is posted for duty under the A.D.S.M., military district No. 10.

Captain James Everett Barry, M.C., is posted for duty under the A.D.M.S., military district No. 2.

Captain Belleden Seymour Hutcheson, V.C., M.C., is posted for duty under the A.D.M.S., military district No. 2.

Captain John Donald Langham, is posted under the A.D.M.S., Embarkation.

Lieutenant-Colonel David Alexander Whitton, is posted for duty under the A.D.M.S., military district No. 2.

Captain George Alexander Smith, M.C., is posted for duty under the A.D.M.S., Military district No. 2.

Lieutenant-Colonel Alexander J. MacKenzie, is posted for duty under the A.D.M.S., military district No. 2.

Major George Garnet Greer, M.C., is detailed to perform the duties of Deputy Assistant Director of Medical Services, military district No. 3, vice Captain R. B. Richardson.

Major Edwin Lloyd Warner, is detailed to perform the duties of Assistant Director of Medical Services, military district No. 10.

Major George William Ogilvie Dowsley, is posted for duty under the A.D.M.S., military district No. 2.

Captain William Wray, is posted for duty under the A.D.M.S., military district No. 6.

Captain Theodore Augustus Carpenter, is posted for duty under the A.D.M.S., military district No. 2.

Promotions:—Major John Campbell, to be a Lieutenant-Colonel.

Major William Bernard MacDermott, to be a Lieutenant-Colonel.

Returned from Overseas:—The undermentioned officers are returned from overseas on general demobilization, further duty, etc: Captain Wakefield, Captain Charles DeLac Des Brisay, Captain John Taylor Lewis, Major Thomas Herbert Bell, Lieutenant-Colonel Edwin Seaborn, Lieutenant-Colonel Wm. A. Gordon Bauld, Captain Edwin Thomas French, Acting-Major James Stewart Hudson, Major Henry Andrew Gordon, Lieutenant Brockman Rand Drake, Major Lewis Lawrence Redford, Acting-Major Thos. Wellington Sutherland, Lieutenant-Colonel John Andrew Amyot, Lieutenant-Colonel Ernest R. Brown, Lieutenant-Colonel Frank Hamilton Mewburn, O.B.E., Colonel George Joseph Boyce, D.S.O., Lieutenant-Colonel F. W. Wilson, Major George Stewart Cameron, Major Findlay Stephens, Captain William Wallace Birdsall, Captain William Begg, Major Francis James Donevan, Captain Austin Bryce Simes, Major William Charles Laidlaw, Captain William Charles Pratt, Lieutenant-Colonel Wm. Harold Kerr Anderson, Colonel John Stewart, Captain David Campbell Aikenhead, Colonel George D. Farmer, Captain John Henry Conklin, Major William Lorne Hutton, Captain Charles Clarke Ballantyne, Captain Gordon Lothian Campbell, Captain William Donovan Ferrie, Captain Thomas Jones Scobie, Captain John St. Clair MacKay, Captain Peter Francis McClure, Captain Arthur McAmmond Blakely, Captain Bennie Cahanna, Major Albert Pollard Chown, Captain Joseph Romeo Pare, Captain Wilfred Marlow Ecclestone, Captain Joseph Gordon Sutherland, Captain John Angus Davies, Captain Tillman Alfred Briggs, M.C., Colonel R. H. MacDonald, M.C., Lieutenant-Colonel George Graham Corbett, Major Frank Ernest Pettman, Captain James Duncan MacDonald, Captain George Samuel Sadler, Major Albert Geogre Nicholls, Major Oliver Sayles Waugh, Captain Giles Brown Murphy.

Medical Societies

ALBERTA MEDICAL ASSOCIATION

THE fourteenth annual meeting of the Alberta Medical Association will be held in Calgary on September 1st, 2nd, and 3rd, under the Presidency of Dr. R. G. Revell of Edmonton. Any physicians in Canada who wish to contribute a paper to this meeting, should write the Secretary, Dr. A. Fisher, General Hospital, Calgary.

Medical Societies

- CANADIAN MEDICAL ASSOCIATION:**—President—Dr. S. Grondin, Quebec.
President-elect—Dr. R. E. McKechnie, Vancouver. Acting Secretary-treasurer—Dr. J. W. Scane, 836 University Street, Montreal.
- ACADEMY OF MEDICINE, TORONTO:**—President—Dr. E. E. King. Secretary—Dr. F. C. Harrison. Treasurer—Dr. J. H. McConnell.
- ALBERTA MEDICAL ASSOCIATION:**—President—Dr. G. A. Anderson, Calgary
Secretary-treasurer—Dr. A. Fisher, Calgary.
Annual Meeting, Calgary, 1919.
- ASSOCIATION OF MEDICAL OFFICERS OF THE MILITIA:**—President—Lt.-Colonel A. T. Shillington, A.M.C., Ottawa. Secretary—Captain T. H. Leggett A.M.C., Ottawa.
- ASSOCIATION OF MEDICAL OFFICERS OF NOVA SCOTIA:**—President—Dr. George E. DeWitt, Wolfville. Secretary—Dr. W. H. Hattie, Halifax.
- BRANT COUNTY MEDICAL SOCIETY:**—President—Dr. E. R. Secord, Brantford. Secretary—Dr. M. N. Faris.
- BRITISH COLUMBIA MEDICAL ASSOCIATION:**—President—Dr. I. Glen Campbell, Vancouver. Secretary—Dr. H. W. Riggs, Vancouver.
- CALGARY MEDICAL ASSOCIATION:**—President—Dr. W. J. Shipley. Secretary—Dr. J. V. Follett. Treasurer—Dr. W. Hackey.
- CANADIAN ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS:**—President—Dr. J. A. Machado, Ottawa. Secretary—Dr. George D. Porter, Ottawa.
- CANADIAN HOSPITAL ASSOCIATION:**—President—Dr. H. A. Boyce, Belleville. Secretary—Dr. J. M. E. Brown, Toronto.
- CANADIAN PUBLIC HEALTH ASSOCIATION:**—President—Dr. J. W. Hattie, Halifax, Nova Scotia. Secretary—Dr. R. D. Defries, Toronto.
- CENTRAL SOUTHERN ALBERTA MEDICAL SOCIETY:**—President—Dr. J. S. Murray, Okotoks. Secretary-treasurer—Dr. G. E. Learmonth, High River.
- COLCHESTER-HANTS MEDICAL SOCIETY:**—President—Dr. J. W. T. Patton, Truro. Secretary—Dr. H. V. Kent, Truro.
- DUFFERIN MEDICAL SOCIETY:**—President—Dr. Rooney, Orangeville. Secretary—Dr. Smith, Shelburne.
- EDMONTON ACADEMY OF MEDICINE:**—President—Dr. J. A. McPherson. Secretary-treasurer—Dr. T. H. Prust. Library, Civic Block.
- ELGIN COUNTY MEDICAL ASSOCIATION:**—President—Dr. F. F. McEwen, Aylmer. Secretary-treasurer—Dr. W. F. Cornett, St. Thomas.
- FRASER VALLEY MEDICAL SOCIETY:**—President—Dr. DeWolfe Smith. Secretary—Dr. D. F. Carswell.
- GUELPH MEDICAL ASSOCIATION:**—President—A. T. Hobbs. Secretary—J. Lindsay.
- HALDIMAND COUNTY MEDICAL ASSOCIATION:**—President—Dr. Hopkins, Dunnville. Secretary—Dr. Courley, Cayuga, Ont.
- HALIFAX MEDICAL SOCIETY:**—President—Dr. John Cameron. Secretary-treasurer—Dr. Hugh Schwartz.

